JULY 15, 1923
VOL. XXV, No. 5

SPECIFICATIO
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3

THE COMMERCIAL CAR JOURNAL

Entered as Second-Class Matter at the Post Office at Philadelphia, Pa.

Backed by 10 years of successful truck manufacture and financial stability.

Liberal Discounts to Dealers in Small Towns

$990

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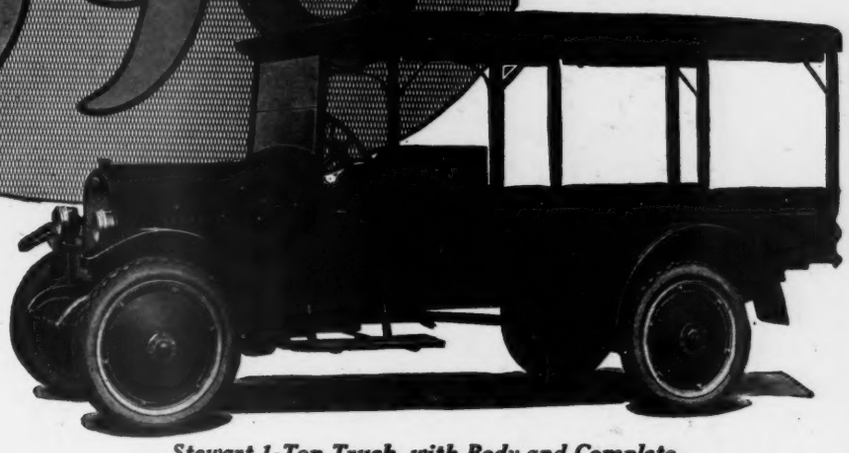


Stewart 1-Ton Truck, with Body and Complete Equipment as Illustrated, $1185, F.O.B. Buffalo

The STEWART 1-Ton Truck

A Few of the Many Units Which Equals Those Used by Far Costlier Trucks

Motor—5-bearing crankshaft. Pressure feed lubricating, automatic control. Removable cylinder head and block. Matches motors of trucks costing up to $1800.

Zenith Carburetor. **Remy** ignition, starter, generator. **Gemmer** steering. Equals those found in trucks costing up to $1800.

Clutch—7 dry-plate, multiple disc type with automatic adjustment. Matches trucks costing up to $1800.

Axles—Front I-beam, drop-forged. Rear, spiral bevel gear, heavy Brown-Lipe differential. All Timken roller bearings. Equal to trucks costing $1800.

"A Stupendous Demand"

Say All Stewart Dealers

New York sold 42 in 3 days. Chicago sold 21 in 4 days. Cleveland sold 27 in 5 days. Worcester, Mass., sold 6 the first day. Philadelphia sold 26 in 2 days.

The Stewart 1-Ton Truck is the biggest sensation in the truck industry. The Stewart factories are working at full speed, and making provision rapidly to double production.

Live dealers who want to make money will act promptly to secure some of the good remaining territories.

Write or Wire Today

STEWART MOTOR CORPORATION Buffalo N.Y.

Other Sizes and Chassis Prices
f. o. b. Buffalo

1¼ to 1½	ton	$1495
1½ to 2	ton	1870
2½ to 3	ton	2590
3½ to 4	ton	3440

PUBLISHED THE 15TH OF EACH MONTH

CHILTON COMPANY

CHESTNUT & 56TH STS. PHILADELPHIA

CLARK
Reg. U. S. Pat. Off.
AXLES
and
STEEL
WHEELS
for
Motor Trucks, Taxicabs, Motor Buses

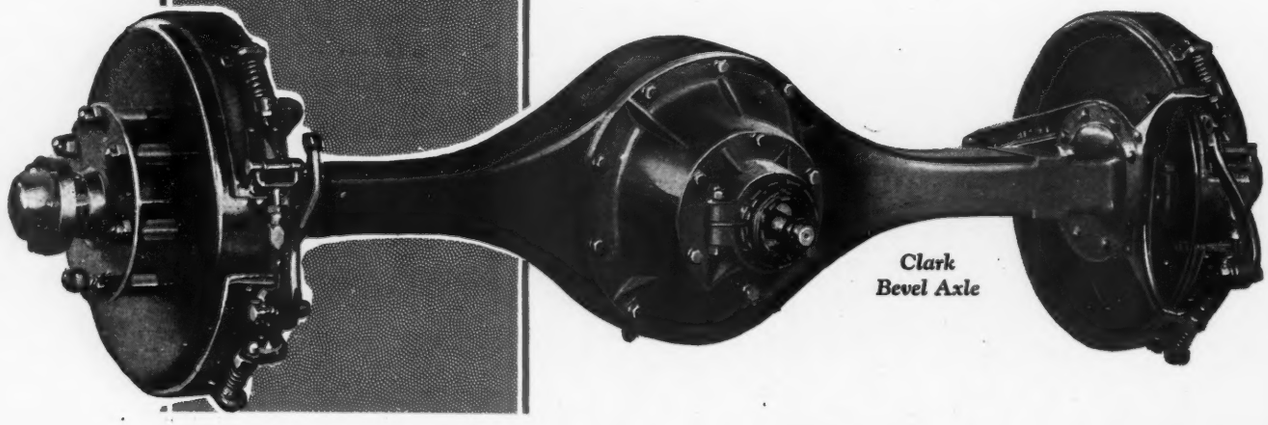
Clark steel wheel; 5 ton rear. Electric furnace steel. Hubs cast integral. Spoke or disc for truck and bus.

Electric steel castings for automotive parts.

Clark Bevel Drive Axles are used on the nation's leading trucks. Four models with capacities as follows: 1 ton; 1¼ ton; 1½ ton; 2½ ton.

Clark axles are also built in internal gear and "over-head" drive from 1½ to 5 ton for motor truck and motor bus.

CLARK EQUIPMENT CO.
BUCHANAN, MICHIGAN



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Clark Steel Wheels average over 100 lbs. per set lighter than any other steel wheel

80%

INCREASE IN PRODUCTION IN MAY, 1923 OVER THE SAME MONTH LAST YEAR!

ARE *YOU* GETTING *YOUR* SHARE OF THIS BUSINESS?

MOTOR TRUCK PRODUCTION	1922	1923
January	9,416	19,377
February	13,195	21,815
March	19,761	34,593
April	22,342	37,366
May	23,788	**42,983**
June	25,984	
July	21,357	
August	24,064	
September	18,843	
October	21,416	
November	21,223	
December	20,138	

General business conditions in the United States are exceptionally good. There is practically no unemployment and in some trades an actual labor shortage. The fact that business is better all around indicates that there should be no falling off in production in commercial cars, but that the production curve should follow an approximately horizontal line.

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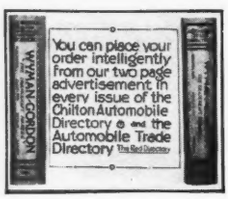
Over 300 progressive jobbers throughout the country energetically push Packard Automotive Cable for the Starting, Lighting and Ignition System. Here are a few reasons why.

We provide our jobber friends with a comprehensive line of sales helps—for distribution to their dealers. A complete descriptive bulletin, wiring chart, garage card and samples, are among the sales-bringers.

Envelope stuffers, sample boards, sample cases for jobbers' salesmen and direct mail pieces to the jobbers' salesmen, *all supplied by us,* make the jobbers' problem of selling Packard Cable no problem at all.


You can place your order intelligently from our two page advertisement in every issue of the Chilton Automobile Directory and the Automobile Trade Directory
WARNER-GORDON

Reinforced by a continuous advertising campaign to the trade; backed by a nation-wide reputation of over twenty years' growth, Packard Cable turns over rapidly—and profitably.

That's why live jobbers sell Packard. *Do You?*

The Packard Electric Company

Warren Ohio

Packard Automotive Cable

The Standard For Over Twenty Years

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THE COMMERCIAL CAR JOURNAL

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CAST STEEL WHEELS

Quality Wheels for Quality Trucks

Maximum Strength, Minimum Weight. Neat appearance and a record of performance during years of service are reasons why our "STANDARD" wheel plant—the largest in the world—is busier now than ever before.

"STANDARD" wheels cost no more than ordinary equipment. Write for information.

THE INTERSTATE FOUNDRY CO.

WHEEL PLANT
Clearing, Ill.

HOME OFFICE
Cleveland
Ohio

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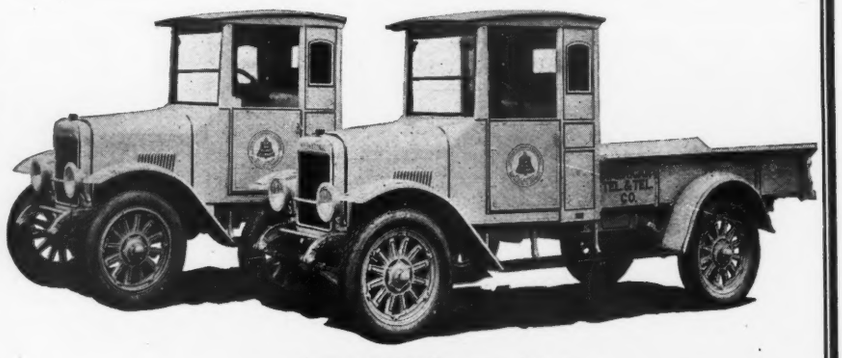
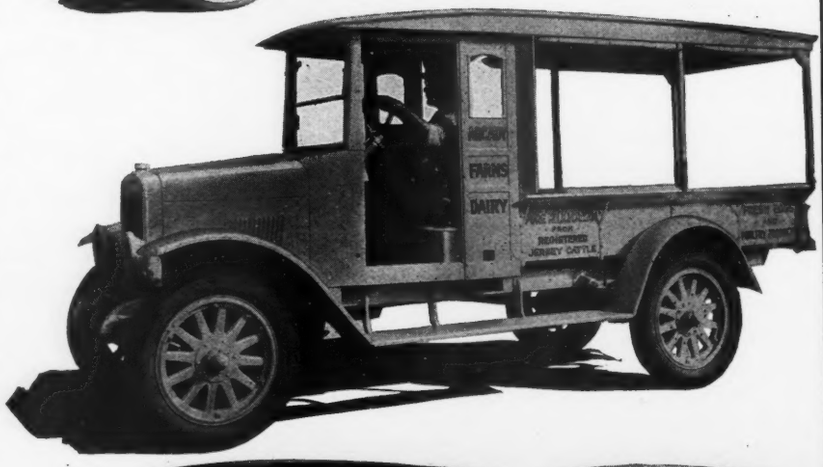
IT is distinctly to your advantage to sell a *complete* motor truck line that includes a full range of heavy-duty trucks, and a nationally popular Speed Truck for light, fast hauls.

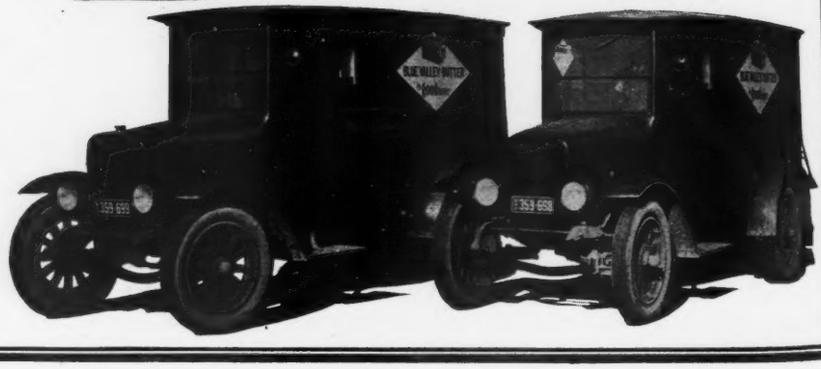
There are thousands of International Speed Trucks giving low-cost, dependable hauling service in all sections of the United States. These trucks are paving the way constantly for additional sales, both of Speed Trucks and International heavy-duty trucks. (Capacities range from 2,000 to 10,000 lbs.)

All International Motor Trucks are insured in service by the International Free Inspection Service Policy, which provides free inspection of all trucks at regular intervals. Not for merely one or two years, but for the life of every truck. Consider the sales advantage this service co-operation gives you.

We suggest that you ask us for complete details covering this line of "low-cost hauling" trucks. Great things are ahead for the man who realizes the profit possibilities of the International line. A telegram or letter to the following address will bring full information at once.







INTERNATIONAL HARVESTER COMPANY
606 S. Michigan Ave. of America (*Incorporated*) Chicago, Ill.

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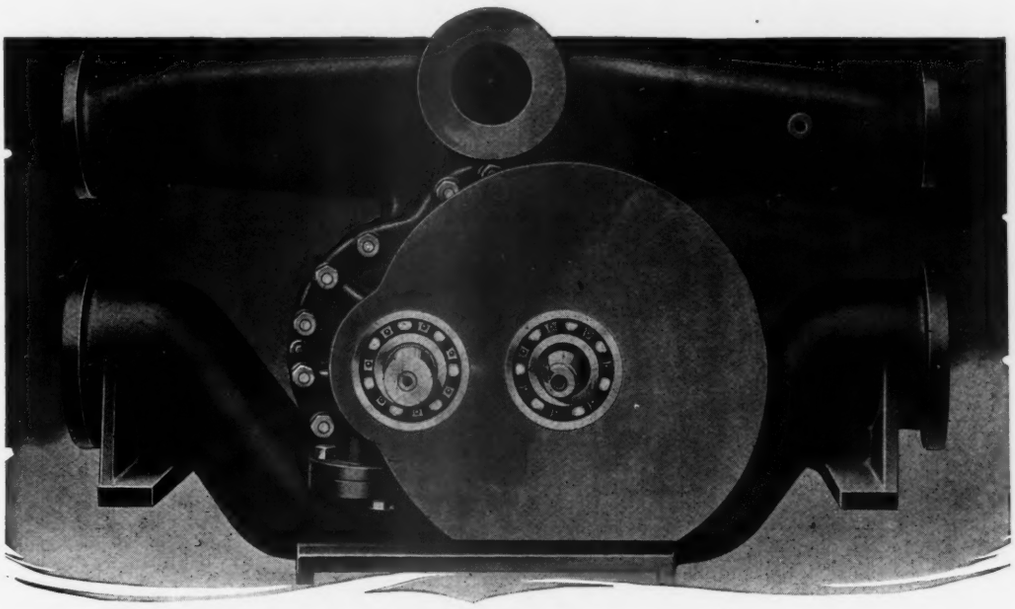

Deep-Groove Ball Bearings on Pumps
Prevent Wear and Protect Rotating Elements

THE advantages of ball bearings on pumps are so numerous and their performance so superior, that they have met with wide adoption not only on water circulating pumps for automotive engines but also on pumps for general purposes.

On this 1000 gal. per minute high-duty rotary fire-engine pump developing 120 pounds pressure at 435 R. P. M., shut-downs for bearing adjustments and break-downs due to bearing failures must be avoided. Furthermore the pump and its gear drive must operate efficiently so that the power requirements will be a minimum.

Four deep-groove ball bearings made by the Hess-Bright Manufacturing Company meet these requirements. Operating practically frictionless and taking radial and thrust loads in combination, this type of bearing develops no appreciable wear in service and holds the rotating parts in correct position without need of bearing adjustments.

Our engineers will gladly submit plans for applying ball bearings to your pumps.

THE HESS-BRIGHT MANUFACTURING COMPANY

Supervised by SKF INDUSTRIES, INC., 165 Broadway, New York City

917

Races displaced to show DEEP-GROOVE bearing carrying maximum end thrust in a forward direction.

Races displaced to show THE SAME bearing carrying maximum thrust in reverse direction.

BALL BEARINGS
The Highest Expression of the Bearing Principle

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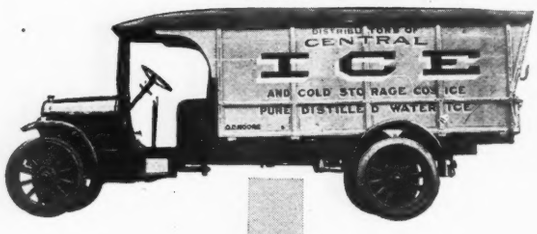
THE United LINE

Built to meet a demand

WHEN a truck dealer decides to distribute a good truck, he should be most concerned over the responsibility of its manufacturer; the type of its specifications; the extent of its *demand* and the fairness of its price.

And this is WHY, after thorough investigations, dealers in ever-increasing numbers are choosing UNITED TRUCKS in 2,000, 3,000, 4,000, 5,000 and 7,500 pound capacities—dealers who know the manufacturer's success ultimately becomes theirs.



Many users of large fleets are making one or more UNITEDS the hub around which they are building enviable transportation service. And the majority of these are buyers who purchase UNITEDS only after gruelling comparative tests.

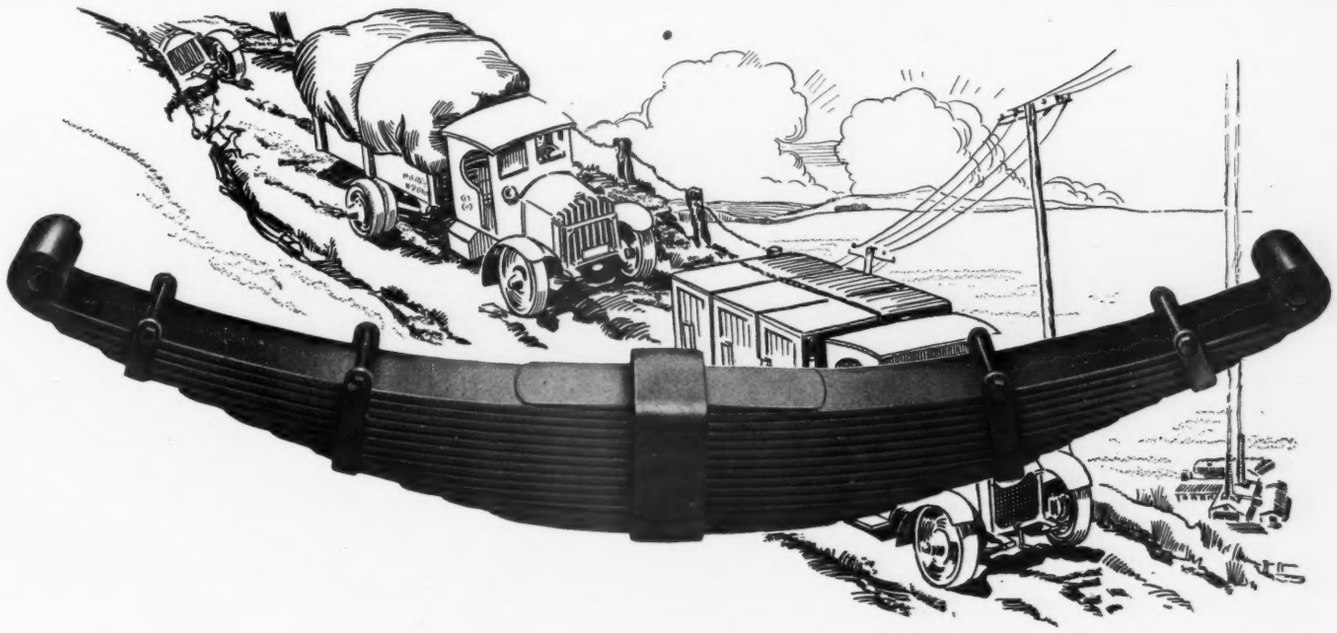
In addition to better values, the UNITED organization offers the utmost in factory co-operation.

Every UNITED truck is built to *meet a demand* and it is a wise dealer who makes himself a part of this well-earned popularity.

Write for details covering one of the most liberal contracts ever offered

United Motors Products Co.
Grand Rapids, Michigan

BUILDERS OF MOTOR TRUCKS EXCLUSIVELY



Performance-Proved Selling Assets!

Equip your chassis with Spring-Perch Springs. The acid test of performance will prove them to be real selling assets for you—and your dealers.

Since 1843 the Spring Perch Company has specialized in the manufacture of springs—made to a quality standard.

Why not avail yourself of the services of our spring experts. Send us your specifications.

Compound Springs for Bus Service—suitable for their greatly varying load conditions.

Banded Springs for Trucks—especially desirable for Hotchkiss Drive. Special designs for Speed Wagons.

SPRING PERCH COMPANY

Makers of Springs Since 1843

STRATFORD, CONN.

SPRING-PERCH

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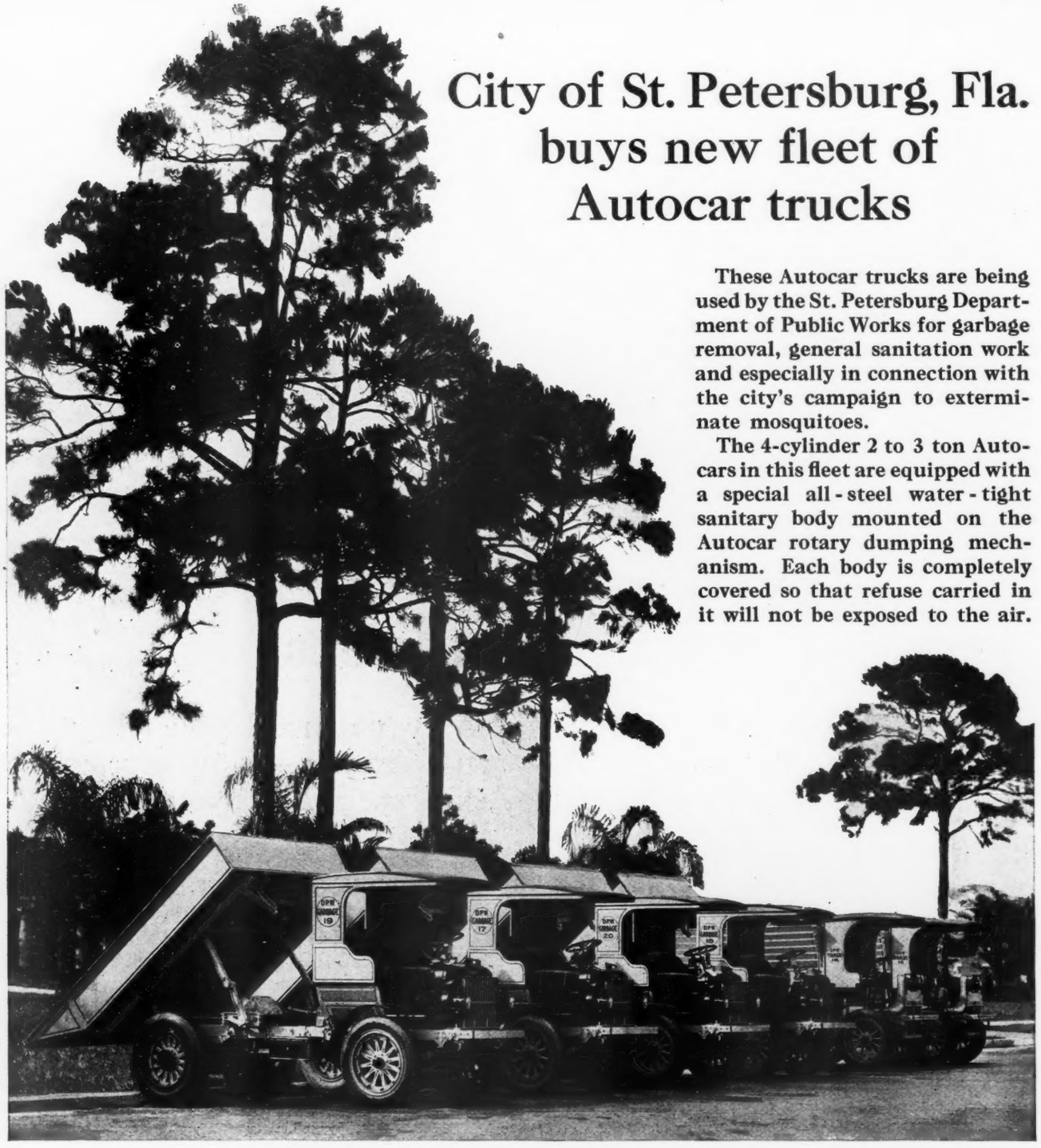

City of St. Petersburg, Fla. buys new fleet of Autocar trucks

These Autocar trucks are being used by the St. Petersburg Department of Public Works for garbage removal, general sanitation work and especially in connection with the city's campaign to exterminate mosquitoes.

The 4-cylinder 2 to 3 ton Autocars in this fleet are equipped with a special all-steel water-tight sanitary body mounted on the Autocar rotary dumping mechanism. Each body is completely covered so that refuse carried in it will not be exposed to the air.

The sturdy

Autocar

Wherever there's a road

A complete line of Autocar motor trucks
New, rebuilt and reconditioned

Manufactured by

The Autocar Company, Established 1897
Ardmore, Pa.
Branches in 45 cities

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The Commercial Car Journal

VOLUME XXV PHILADELPHIA, JULY 15, 1923 NUMBER 5

Why the Best-Equipped Shop Gets the Business

By A. V. COMINGS

THE whole purpose of this article is to prove to the motor truck service shop manager that there is a greatly increased **net** profit in servicing motor trucks in a shop that is well equipped with modern service shop equipment, where the customer is **charged by the job,** that can never be possible in the present inefficient shops, where truck owners pay for all their repairs and maintenance **by the hour.**

Throughout this article I am basing all figures on a small shop, where four mechanics are kept busy under a foreman who is paid $200 a month. An eight-hour day, twenty-six days per month, is the basis of all labor calculations. All figures apply to a small shop, to show that **charging by the job** can be made a real profit producer even in the smaller places of business.

As a basis for figuring and comparing labor costs both with and without good shop equipment, and at the hourly rate as against the charge by the job, I have taken seven standard operations, the kind that go through a shop daily, and with which all truck service men are familiar.

The time figures used in these operations, showing the time it formerly took to do the work when workmen were doing the job without good shop equipment, and the time it takes to do the work in the well equipped shop today, were secured from Owen & Graham, GMC distributors in Detroit, Mich. There is absolutely **no theory** in these figures. They represent the actual time this shop formerly required to turn out the work on the operations listed, and the actual time in which this shop is turning out the same work today, under present efficient conditions.

The Principle Applies to All Makes

To be sure, the time given for these various operations would not be the same for all makes of trucks, but exactly the same time studies could be worked out for any make of truck, and the figures, carried through, would show similar results. The principle holds good through the entire list of motor trucks, and the service shop foreman or truck dealer who wants to dope out better profits for the service work on his own truck and his own shop, has but to substitute his own figures throughout the appended tables, to see the net profit he is losing every day that he maintains an inefficient shop.

It is a sheer waste of breath for any truck dealer or shop foreman to say that the operations given herewith can not be done in the time shown, for they **are being done** in the Owen & Graham Company shop, day in and day out. This shop is equipped with modern machinery and the mechanics work with modern tools.

Any well equipped truck service shop, manned by good, average mechanics, can make similar cuts in time on every motor truck maintenance and repair job that passes through the place, as compared with the time required by the same shop without good equipment. This has been proved time and again, in shops all over the country.

THERE is a vast field for improvement in the service shops conducted by motor truck dealers in this country.

Those dealers who first realize their opportunity in this field will be rewarded by an increase in service shop profits, and by a big increase in sales of new trucks.

For this improvement in service means quicker service to the truck owner, better service, and cheaper service. The dealer who renders this kind of service to owners of motor trucks is going to find that owners are coming to him to buy new trucks when they are in the market for additions to their fleet.

Two things will contribute to better and cheaper service for motor truck owners, and increased sales for the dealers who awaken to their opportunity.

One is the installation of modern service shop equipment, that cuts down the time required to perform all the standard repair and maintenance operations, and the other goes hand in hand with this—charging the truck owner BY THE JOB for his service work, instead of BY THE HOUR.

Seven Typical Operations

Following are the seven standard maintenance operations on which the figures in this article are based, showing the time it formerly took to do each one, before mechanics and shops had modern tools and equipment to work with, and under present conditions, with modern time-saving tools and equipment:

	Hours necessary without good shop equipment	Hours necessary with good shop equipment
No. 1— Removing and refacing valves and valve seats, grinding in valves, adjusting valves and cleaning out carbon....	7 hrs.	4.5 hrs.
No. 2— Removing oil pan, cylinder head, 4 pistons. Fitting new pistons, bushings and piston pins, tighten and fit crankshaft bearings and 4 connecting rod bearings, replace oil pan and cylinder head. Tune engine	15 hrs.	10 hrs.
No. 3— Rear axle complete overhaul, includes dismantling old axle, replacing all worn parts, reassemble, adjust, etc.	15 hrs.	10 hrs.
No. 4— Relining all brake bands, includes removal and replacement of both rear wheels (if this is necessary on GMC truck), application of new brake linings to straps, replacement and adjustment of brakes.....	6 hrs.	4.5 hrs.
No. 5— Cleaning out fuel system and carburetor. Clean and adjust carburetor thoroughly. Blow out gas lines with air, replace system and test.....	2 hrs.	1 hr.
No. 6— Cleaning outside of motor thoroughly	2 hrs.	½ hr.
No. 7— Complete transmission overhaul, tear down and replace worn parts, adjust and reassemble, etc.	12 hrs.	8 hrs.

What Happens Without Equipment

A few minutes' figuring will show that four mechanics, working eight hours a day for the 26 working days of a month, will put in a total of 832 hours' labor during the month. I am assuming for the sake of clearance in this article that there is no "idle time" between jobs, which, of course, does not hold true. But as I use this same method for both the shop well equipped and one without good equip-

Table 1

Greatest monthly income possible in four-man shop WITHOUT good shop equipment, charging customer $1.50 per hour

Operation number	Times done during month	Number of hours to each job	Total hours on this job during month	Charge to each customer	Total charge on this job during month
1.....	20	7	140	$10.50	$210.00
2.....	15	15	225	22.50	337.50
3.....	5	15	75	22.50	112.50
4.....	22	6	132	9.00	198.00
5.....	12	2	24	3.00	36.00
6.....	16	2	32	3.00	48.00
7.....	17	12	204	18.00	306.00
		Total hours' work during the month	832	Total income possible.....	$1,248.00

ment, the two balance and there is no difference insofar as the final comparison goes.

Now, if the poorly equipped service station does all its work at a charge to its customers of $1.50 per hour, the very greatest income it can have in one month will be $1248, which is the hourly charge, $1.50, multiplied by the 832 hours that the four men have put in.

In Table No. 1 herewith, I show the work that can be done in one month by these four mechanics, with poor tools and without modern shop equipment, using the seven standard operations as examples.

For instance, operation No. 1, valve grinding, etc., is done by the mechanics 20 times during the month, taking up 140 hours of their time. As it takes seven hours to do this job without the proper equipment, and the customer is charged $1.50 per hour, the charge against each customer is $10.50, and the total charge for doing this work on various trucks during the month is $210.

Following right down the table, the number of times each of these selected operations is done during the month is shown, how many hours are put in on each, and how much money each brings in to the shop at $1.50 per hour.

Checking up the time in this table it will be seen that the workmen have put in their full 832 hours on the various operations, and checking up the charges made customers, it will be found that these total $1248, which is the greatest sum this shop can possibly earn working under these conditions.

Speeding Up With Good Equipment

Now let us suppose that this truck dealer or service shop manager has installed some modern time and labor-saving garage equipment, that his mechanics have been provided with speed wrenches, and tools, that they use an electric valve facing and grinding machine, and other devices that cut down costs and time. What is the result?

Table No. 2 shows what these same mechanics can do in a month in a first-class shop.

Operation No. 1 can now be performed 32 times during the month. And because this shop is well equipped, the proprietor can afford to charge his customer TEN PER CENT LESS for the job, which makes it $9.45 instead of $10.50, which the customer had to pay for exactly the same job in theold shop.

AND HERE'S THE BIG SURPRISE!

Although the proprietor of this shop is charging 10 PER CENT LESS for the work that goes through his shop now, **he is making more money** for the shop is now enabled to do a much greater volume of work with but a slightly increased overhead.

Right down through the column of operations, it will be seen in Table No. 2 that every operation can be done many more times in the month in the better equipped shop, yet when the totals are counted up **only the same old 832 hours of labor** have been put in by the men.

But instead of charging his customers **by the hour,** at the $1.50 per hour rate, the proprietor of this shop is now **charging by the job,** charging **less,** and **making more money.**

Look at the two final columns in Table No. 2. Every one of these operations cost the customer **ten per cent less,** but because the service is sold **by the job,** and the workmen are able to turn the work out faster because they have the tools to do it with, the service shop has an income of $1,721.25, an income greater by $473.25 than in the old shop, though the men have worked no harder nor have they put in more hours.

Table 3

Expense of four-man truck service shop, at $4 per day per man, with and without good shop equipment, for one month:

	Without good shop equipment	With good shop equipment
Wages of 4 men, at $4 per day, 26 days.....	$416	$416
Shop foreman's salary.	200	200
Rent	75	75
Light	8	12
Power	12	16
Telephone	5	5
Water	3	4
Printing, advertising and stamps	10	20
Fire insurance	5	7
Liability insurance ...	3	3
Compensation insurance	5	5
Taxes	6	10
Bad accounts	15	20
Comebacks	15	15
Interest on Investment	15	23
Depreciation	15	40
Bookkeeper	100	100
Total	$908	$971

Profit Summary

Total monthly Income possible, **without** good equipment charging by the hour	$1,248.00
Total monthly income possible **without** good equipment	908.00
Total monthly net profit possible **without** good equipment	$ 340.00
Total monthly expense of shop **with** good equipment	$1,721.25
Total monthly expense of shop, good equipment	971.00
Total monthly net profit possible **with** good equipment, charging by the job.....	750.25
Additional net profit per month made possible by good equipment and charging by the job	**$ 410.25**

How the Overhead Compares

This extra income does not all represent increased net profit, however, nor is there any use in kidding oneself that it dones.

For the owner of this service station has greater expenses because of his investment in the new and modern machinery and tools, larger insurance and power bills, etc.

To show just how much extra profit there is, however, is not a difficult job, and it presents figures that motor truck dealers and service shop managers should know and consider in all their price-making on repair and maintenance work.

Table No. 3 shows a comparison of the overhead in the shop before the introduction of modern equipment, when the customer was charged $1.50 an hour for his work, and the overhead in the modernly equipped shop, where the customer is charged **by the job,** and charged **less** for his maintenance work.

Wages of the men, the largest single item of expense, remains the same, for they are getting $4 per day under both systems.

The shop foreman's salary remains the same, also, as does the rent and the salary of the bookkeeper.

More is spent for light and power, however, and water and several other items that more business and bigger investment influence.

For instance, I am assuming that this proprietor has spent $1,500 in new machinery and tools for his shop and men. Figuring a five-year depreciation period on this machinery and the tools will add $300 a year to his depreciation column, or $25 a month, which makes his depreciation $40 monthly instead of $15, as in the old days.

Interest on this extra investment at 6

Table 2

Greatly increased income possible in four-man shop WITH good shop equipment, charging BY THE JOB

Operation number	Times done during month	Number of hours to each job	Total hours on the job during month	Charge to each customer	Total charge on this job during month
1.....	32	4½	144	$9.45	$302.40
2.....	22	10	220	20.25	445.50
3.....	11	10	110	20.25	222.75
4.....	28	4½	126	8.10	226.80
5.....	20	1	20	2.70	54.00
6.....	24	½	12	2.70	64.80
7.....	25	8	200	16.20	405.00
		Total hours' work during the month	832	Total income possible.....	$1,721.25

per cent will bring his interest charges from $15 up to $23, also.

Adding all the extra overhead items necessary to cover his improved shop, brings the total from $908, in the old shop, to $971 under the improved conditions.

Now the Net Profits

With a total possible income from labor in the old shop of $1,248, and expenses, as shown by Table No. 3, reaching $908, he would have a net profit of just $340.

But, in the shop well equipped, and **charging by the job,** a total labor income is possible of $1,721.25, and Table No. 3 shows that the expenses of the shop well equipped have risen to $971, so there is a total **net profit** of $750.25, and this profit is:

JUST $410.25 **MORE** PER MONTH THAN THIS DEALER CAN MAKE UNDER THE OLD SYSTEM!

JUST $4,923 **MORE** PER YEAR!

And this extra profit, remember, is made in the **same shop,** with the **same men,** working the **same number of hours!**

Where Does the Work Come From?

"But where is all that extra work coming from?" the service shop manager will ask; "all the work that will be necessary to keep the men busy?"

Owners of motor trucks operate those trucks to make money.

Every hour that their trucks are tied up in a repair or maintenance shop means money lost to the owner.

The minute a truck dealer or service shop proprietor demonstrates that he can turn out good work faster and cheaper and better than other shops, he is going to be swamped with business.

There is no law to prevent a truck dealer or service man soliciting business from truck owners, though the way some of them act it would seem that there must be a statute to this effect.

Selling service is just as legitimate as selling new motor trucks, and can be made a very profitable part of any dealer's business.

Newspaper advertising, personal letters to truck owners, and direct personal solicitation **all** get results, as some successful motor truck men have found out.

And the truck dealer who has hundreds of trucks coming to his service shop for their maintenance and repairs, and serves those owners efficiently, is at the top of the heap when it comes to selling these owners new trucks.

A motor truck dealer has absolutely no right these days to pile up big per hour labor charges against a motor truck in his shop **because his mechanics are not provided with the proper shop and tool equipment to do the job in the most efficient manner,** and truck owners are beginning to find this out and go to the well-equipped shop. Why shouldn't they, if in these shops they can have the work done quickly, better, and at a less cost to them?

Can It be Done?

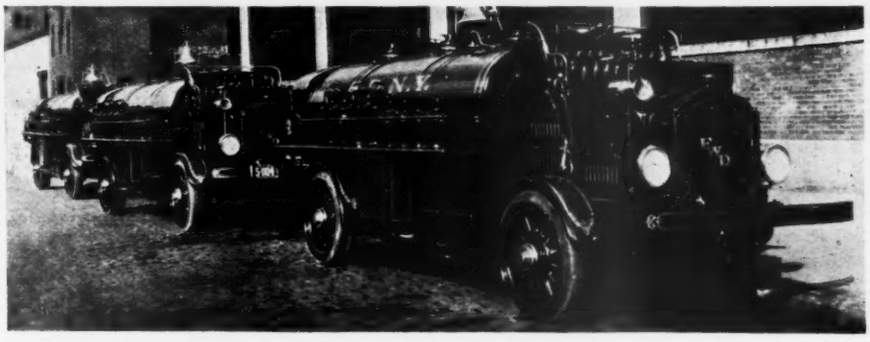
There will be some who will say this sounds all right, but it can't be done.

Well, it IS being done, and done very successfully, too.

Today there is hardly a first-class passenger car service station in the country that isn't run on the flat-rate plan, selling the car owners their maintenance work **by the job,** not by the hour. And most of these service stations are making real money.

As far as I have been able to find out, the Federal Motor Truck Company is the only one of the truck manufacturers that has given this matter of flat-rate truck repairs any really serious thought. George Dow, the company's service manager, is going into the subject with great thoroughness, and I venture to say that before another year is passed Federal dealers all over the country will be cuting costs on maintenance, through special shop equipment and tools, below a figure they ever before thought possible.

It is bound to come.



Three New Combination Gasoline and Oil Supply Tank Trucks Recently Placed in the Service of the New York City Fire Department

These are FWD chassis furnished by the Four Wheel Drive Auto Company, of Clintonville, Wis. They are the four-wheel driven type of trucks and are equipped with 900 gal. tanks with three compartments of 300 gal. capacities. They will be used to distribute fuel and lubricants to the various stations of the New York City Fire Department, supplying the needs for the operation of motor driven apparatus.

N. A. C. C. Offers Prizes for Highway-Safety Contest

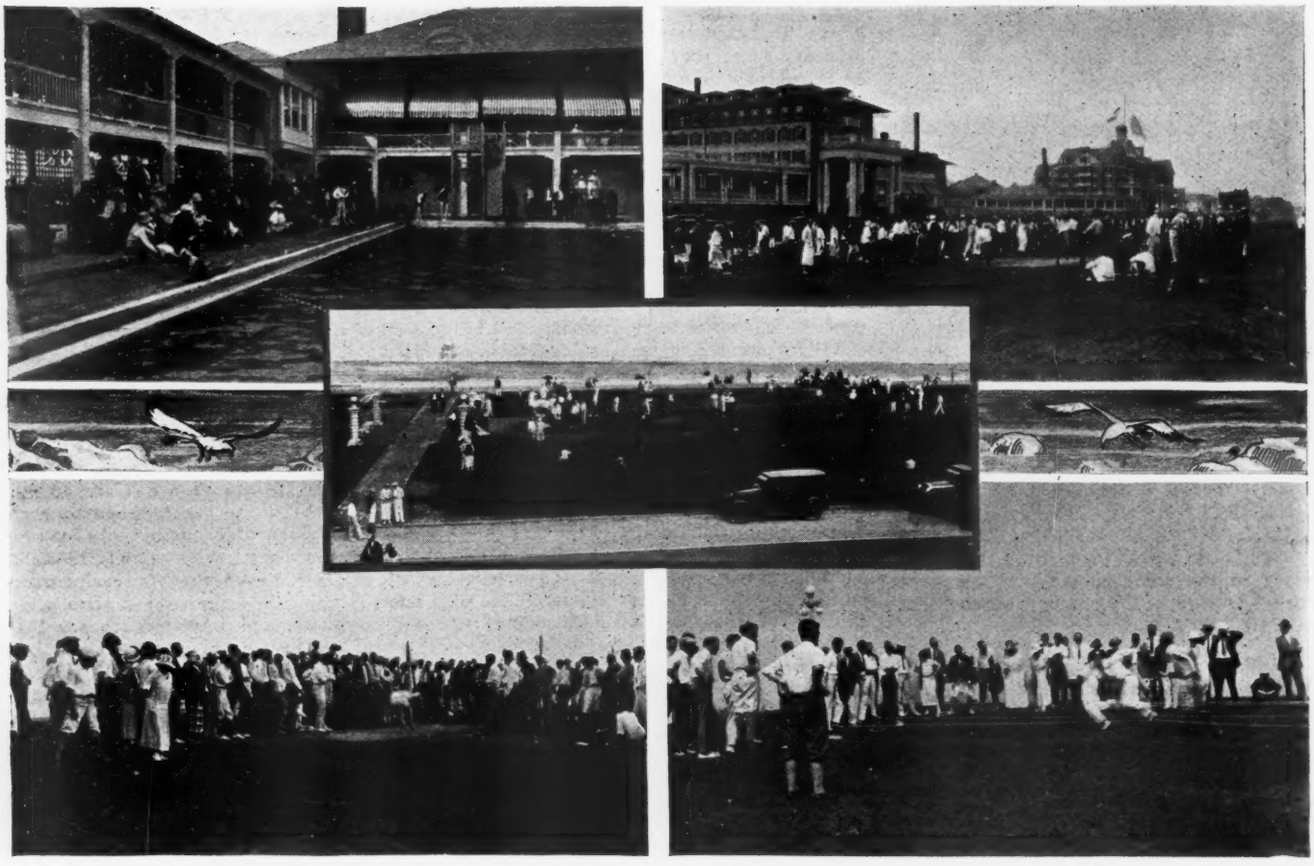
The National Automobile Chamber of Commerce is offering 500 prizes, totalling $6500 to school children and teachers for the best essays and lessons on how to promote safety on the highways. A trip to Washington with all expenses paid is the award for the best essay by a school child and the best lesson by a school teacher.

The N. A. C. C. is offering these prizes for the third consecutive year because it believes that many lives can be saved through teaching the children how to behave in traffic, and by urging them and their parents to uphold public officials in traffic law enforcement.

Details of the contest may be obtained from the Highway Education Board, Willard Bldg., Washington, D. C.

Motor Bus Chair Cars for 16 Passengers Latest Bus Innovation

The Youngstown & Suburban Transportation Company, between Youngstown, Salem and East Palestine, Ohio, recently inaugurated this de luxe service by the installation of four motor bus chair cars. The chair car de luxe is mounted on a White model 50 chassis, especially designed for passenger service. The coaches, made by the Kuhlman Car Co., Cleveland, Ohio, are entirely of steel and fashioned after the regular Pullman car. The motor bus chair car service has aroused keen interest among transportation men as well as the traveling public.



S. A. E. Summer Meeting Big Success in Every Way

Big Section Low Pressure Tires and Four-Wheel Brakes Come in for Much Discussion. Attendance Second Largest in History of Society. Western Sections Have Big Turnout

WHETHER it was good business in general which is running neck to neck with the automotive industry, that was responsible for the large attendance at the S. A. E. Convention recently held at Spring Lake, N. J., or the happy combination of a vacation with business, we are not prepared to say. But everybody at the convention was ready to admit that this year's event was just about the best ever. The weather behaved itself and with the exception of a slight shower immediately following the close of the field day events, which helped slightly to reduce the heat, nothing happened to dampen the enthusiasm and good fellowship which characterizes the annual summer meeting.

The Daily S. A. E. was better than ever. The cartoons by Henry Major were a distinct treat. The social features were unusually well handled, while the technical sessions were run with a degree of dispatch that elicited many comments. Many of the eastern members and quite a few from the west motored to the convention. Three Mack buses brought down a good many of the New York members. These buses were at the disposal of the members during the entire week and made schedule trips all day long between the golf courses and the hotels.

Henry M. Crane, New York, was nominated for president. The vice-presidents nominated are as follows:

First vice-president, E. A. Johnson, Chicago; second vice-president, Motor Car Engineering, W. R. Strickland, Detroit. second vice-president, Aviation Engineering, Harold L. Pope, New York; second vice-president, Tractor Engineering, J. M. Patitz, Milwaukee; second vice-president, Marine Engineering, W. C. Ware, Geneva, N. Y.; second vice-president, Stationary Engineering, T. B. Fordham, Dayton, Ohio. Councillors, to serve two years, J. H. Hunt, Dayton, Ohio; A. K. Brumbaugh, Philadelphia; M. P. Rumney, Detroit; treasurer, C. M. Whittlesey, Hartford, Conn.

The financial report of the Society was very gratifying and indicated that the Society has made some steady gains during the first eight months of the fiscal year. The financial statement, as at the close of business on May 31st, last, shows an excess of income over expenses of $878.33. In other words the net income for the present fiscal year has increases nearly $20,000 as compared with that for the same period of last year.

The membership of the Society as of June 1st was 5630, of which 2762 are full members and 1501 associates, an increase of 87 compared with last year. Resignations and delinquents, etc, resulted in

the dropping of 695 from the membership last year.

In his address in connection with the business session, President Alden stressed the three important problems with which the society must concern itself most of all, namely, highways, transportation and production. He announced that the S. A. E. in connection with transportation work is getting into closer contact with the electric railway interests and hopes to hold a joint meeting with the executives of street railways, during the convention of the American Electric Railway Association, at Atlantic City, next October.

Much discussion was given over to the merits of four-wheel brakes and the air cushion tires. The brake tests arranged in front of the hotels proved conclusively that the brakes would do all that is claimed for them but that it will take some time before the design can be made fool-proof enough to warrant the adoption of these brakes on the small car. The concensus of opinion was that the four-wheel brakes are of distinct advantage but that no hurried attempt should be made to adopt them simply to satisfy the sales department.

The large section, low pressure tires created perhaps the most interest of all the technical subjects. James E. Hale, of the Firestone Company read the only paper on the subject and by means of a slowed up picture, gave his audience one of the best illustrations of how these tires act under actual service. In commenting on the tires, he said:

"This newest development, the Air Cushion tire, is the result of a deliberate attempt to make riding on low pressure air possible. It is the natural consequence of a strong conviction on my part that there ought to be a way to accomplish it that led the Firestone Company to take the bold step in going to an extreme and providing carcass flexibility, and a section size sufficient to give a larger area of contact.

"The fundamentals of this movement are comparatively simple. If we are to have greater cushioning for comfort and protection against vibrations of the car, the combination of low air pressure and large area of contact must be provided and by employing such tire construction that the tire durability may not be impaired. The goal aimed at was to increase the area of contact sufficiently so that air pressures ranging from 20 to 35 lb. could be employed in actual practice.

"In a general way the contact area of the tread with the road expressed in square inches multiplied by the internal air pressure will give a figure which approximates the load resting on the tire. This is as it should be. It is evident that if a 1000 lb. load is to be imposed on the tire and due to the limitation in the amount of vertical deflection not more than 20 sq. in. of contact can be obtained it will require 50 lb. of air to carry the load. If, however, we can devise some way of increasing the area and still not exceed the proper degree of deflection, for instance if we can increase the area to 50 sq. in., it will require very much less pressure, and in this case only 20 lb., to carry the same load.

An accompanying illustration shows a tread imprint of a 7.30 Air Cushion tire compared with the 33 x 5 high pressure pneumatic, each tire having been loaded to 1700 lb., but with 35 lb. of air in the Air Cushion tire and 65 lb. in the 33 x 5.

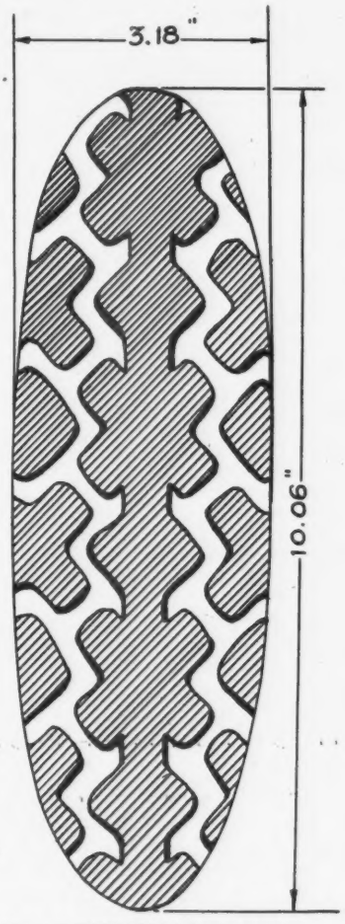
What the Air Cushion Tires Do

"I find it almost impossible to choose descriptive phraseology to drive home the wonderful effect that these tires have on the riding of the car. The first reaction to the occupants is the greater degree of comfort. Road surface irregularities are toned down and in most cases are obliterated. Of course, the ups and downs in the road are still there and the car goes up and down with them, but everything is cushioned so that there are no sharp shocks or jolts, and one does not have to watch the road to put his body in a tense condition to get over the rough places, nor to be worried about being tossed up from the seat, and furthermore the driver does not have to pick out all the good places in a rough road, because it makes little or no difference whether he takes them in or not.

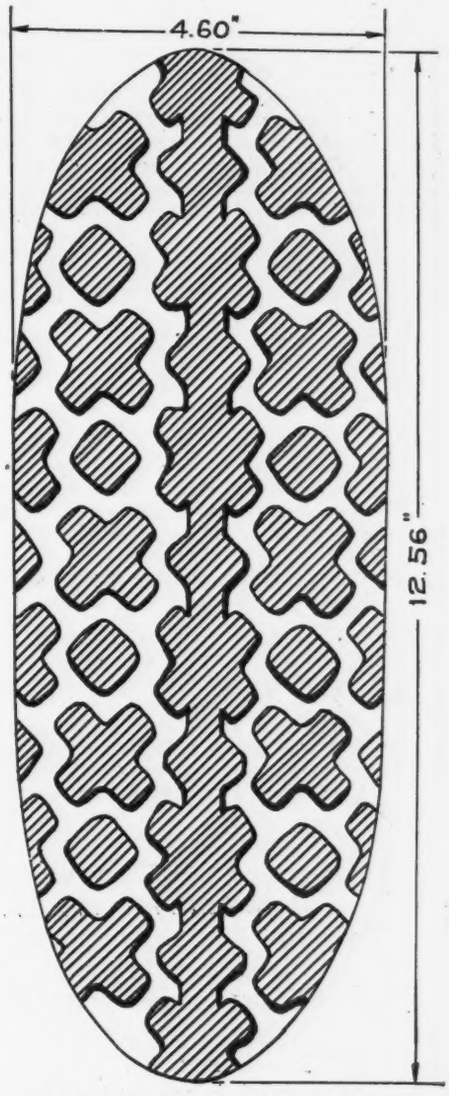
Another important factor is that on rough roads, particularly in the country, the Air Cushion tires smooth out the road so that a substantially higher average speed is practical.

"Of equal importance to improving the degree of comfort is the effect on the mechanism and body of the car itself. So far no way has presented itself of making deliberate comparisons of the effect of low pressure air in preserving the car from developing rattles, creaks and mechanical depreciation, but there is no question about its being a tremendous factor, and all because of the fact that that everything is cushioned."

Mr. Hale's paper produced a quantity of questions and considerable discussion, from which it could only be surmised that the car manufacturers are willing to give this new tire equipment whole hearted support. It is admitted that these tires are still in the experimental stage, but it is our belief that this form of equipment will soon be placed on cars as regular equipment not because of any campaigning on the part of the tire companies or or the car manufacturer but because the public will demand the better riding qualities.



33 x 5 PNEUMATIC TIRE



7.30 AIR CUSHION TIRE

1700 lb.	Load	1700 lb.
65 lb.	Air Pressure	35 lb.
26.28	Contact Area	48.30
.95	Actual Deflection	1.68

What Truck Factory Engineers Think of Balloon Tires

THE following extracts are taken from letters received from 52 engineers and sales executives connected with truck factories. These letters were not authorized for publication, so that we are not at liberty to disclose the names of the individuals or the factories.

Out of the 52 replies analysed, 20 expressed themselves very much in favor of the new 20-in. diameter wheel on which the large diameter, low pressure tire is designed to be mounted. Quite a number of truck companies are now experimenting with these tires. Most truck factory engineers are willing to concede the advantages claimed for the smaller wheel but many have not had sufficient opportunity to thoroughly try out the large tires on motor trucks to be willing to give definite opinions on the same.

"Believes that manufacturers of assembled trucks will not take kindly to the small diameter tires, until they are in a position to obtain axles designed to take care of brake drum interference."

"Believes that for slow speed vehicles, such as taxicabs and smaller cars they may be entirely satisfactory, provided their cost is not prohibitive."

"Will reduce the road clearance to a dangerous point for use in the country, but for city service, especially for buses, it should have a considerable advantage."

"Gear ratio may be maintained as standard and it would not be necessary to carry such wide range of gear ratios to cover conditions which are governed by diameter of tires."

"Would welcome the smaller diameter tire for their two ton truck as it would bring their high platform to the ground and lower the center of gravity."

"Just started using a new 20-inch diameter tires and so far same has met with general approval with their dealer organization."

"Biggest advantage is in the lowering of the height of trucks as well as buses and believes the demand for the 20 inch tire will grow rapidly."

"Will be a big advantage if the tire and wheel manufacturers will co-operate with the axle manufacturers in connection with size of brake drums on rear wheels."

"Dealers are demanding them to some extent and believes it is only a question of time until they offer them as optional equipment."

"Considerable difficulty encountered in the larger sizes in getting a suitable wheel and hub equipment to go along with the tire, but believes that within a short time this trouble will be eliminated."

"Believes that they will come into common use when the axle companies are able to do the necessary design work."

"With the growth of the motor industry the small wheel will play an important part as the body can be lowered and the unsprung weight reduced."

"It is recognized the 20-inch wheel is a necessity and feels certain the 20-inch wheel is here to stay."

"Going to be very popular and there is no doubt but what these tires are far better for use on Ford, Reo and Chevrolet trucks than are the larger diameter sizes."

"Will make brakes efficient and will also permit a corresponding increase in gear ratio and will also tend to encourage the use of bevel gear axles which are at the present time barred due to large diameter tires."

"Believe that with the improved road conditions and ultimate lower costs on the 20-inch wheel size there will be a strong demand for them, that the lowering of truck frames will be another big point in their favor and also the lighter weight of the new wheels which will reduce the unsprung weight."

In favor of the 20-in. wheel	20
Not interested	4
Have not had any experience with them	9
See need for new brake design or special axles	14
Good thing for fire apparatus	1
Good for light trucks	4
Good for buses	9
Not good for heavy trucks	1
Advantages of lower center of gravity	12
Simplifies inventory of wheels and rims	1

What Do Owners Think of Your Sales and Advertising Methods?

This Story Treats of a Novel Method Conceived by a Middle West Dealer for Determining the Comparative Standing of His Truck in His Community

By FRANK H. WILLIAMS

A SUCCESSFUL middle western commercial car dealer determined to find out just what the truck buyers of his territory thought of his establishment and of the other truck dealers in his city and why they bought of these other dealers and so on. He figured that by getting brass tacks information of this sort he would have a solid foundation upon which to base an advertising campaign he was about to start and that such information would point the way to various means and methods by which he might boost his business.

But how was this information to be secured? Certainly, the truck owners couldn't be expected to talk frankly about the dealer's business if he himself asked questions of the owners and the same thing would be true of people known to be his representatives.

Finally, after considering the matter for some time, the dealer secured the services of a man who had been successful in selling washing machines by house-to-house canvassing. To this man the dealer said:

"I want you to go to about fifty local owners of trucks—department stores, groceries, clothiers, furniture stores, etc., and I want you to ask each of these fifty owners of trucks these questions:

"What do you think of the truck you have purchased?

"What do you think of the sales methods of the dealer from whom you purchased the truck?

"What particular points made you purchase this particular truck?

"What things most interest you in the advertising done by the local truck dealers?

"What complaints, if any, have you to make about the local truck dealers?

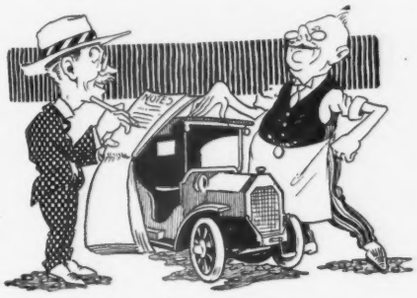
"I don't want you to mention my name in any of the talking you do. Simply tell the truck owners that you are making a canvass of the city for the purpose of obtaining the honest opinions of the owners about the trucks they are using and about the advertising, sales methods and personnel of the local truck dealers. Make it absolutely plain that you want honest, actual opinions and that the information secured will be utilized by a local truck dealer in bettering his sales methods and his advertising. Tell the owners that they needn't be afraid to knock—that none of the knocking they do will be held against them and that, in fact, the more knocking they do the better you will like it.

"Make a careful note of all the complaints that are registered by the owners and all the various points that are brought up and after you've done your canvassing classify all the information you secure so that all complaints of one character will be grouped together and so on.

"Do you understand just what I want?"

The canvasser did and went forth at once on his job.

The information which he secured in this way was immensely interesting and tremendously valuable to the truck dealer who employed the canvasser. It pointed out to the dealer where he was making some mistakes in the conduct of his business, which should be rectified at once and it also showed him where he could make some other changes which would be to the advantage of his business.



It's a Grand Old Boat"

And it is hoped that the information secured by this canvasser and presented in this article will also be of interest and value to other truck dealers and will suggest ways and means to them by which they can increase their volumes of business.

The answers to the first question revealed some rather surprising things. In the first place the answers showed that less than five per cent of the owners who were questioned were dissatisfied with their trucks. This, too, in spite of the fact that a very considerable number of different makes were represented among the trucks owned. Several of the owners were extremely enthusiastic about their trucks and declared that they had absolutely the best trucks on the market. Most of the owners declared that they were entirely satisfied with their trucks and they seemed to take it for granted that they should be satisfied and that the trucks should be rendering the sort of service the owners expected from them. Those few owners who were dissatisfied had specific complaints to make about the truck's performance—high gasoline consumption and big repair bills being the chief cause of complaint.

The answers to the second question brought out a wide range of thought. Several local dealers were described by the owners as being back numbers who didn't have enough pep to get out and hustle although they were handling trucks which should be going big. Other dealers were described as being live wires. In fact, in ninety per cent of all the answers the owners described the dealers either as being no good or as being live wires. There was practically no half-way ground in the way the owners thought of the dealers And it seemed to the dealer who was responsible for this investigation that this was an extremely important point for him to consider—just as it is an important point for other dealers to consider. If, in the opinions of the majority of owners, there is no middle ground for the dealer—if he is either no good or a live wire—it certainly behooves the dealer who wants to get ahead to get into the right classification at once and stay there. So much of the dealer's success depends upon the sort of a reputation he has with the purchasing public.

In the answers to the third question it was discovered that many unexpected factors had influenced the owners in their purchases of commercial cars. Here are some of the answers made to this question:

"I bought because one of my relatives who is in the same business has one of these trucks and thinks it's the best ever."

"My reason for purchasing was that the salesman showed me facts and figures indicating the truck's excellent performance."

"My purchase was made because the price was right."

"I bought my truck because the salesman convinced me that it is best adapted to my business."

And so on.

The foregoing were considered by the dealer as being the answers best calculated

to help him in his selling in that they gave him ideas for good sales arguments.

When the owners were asked what most interests them in the advertising done by local commercial car dealers, two things were stressed. One of these was price and the second was performance. And it was stated by the owners that whenever a dealer tells about local truck records they find the advertising more than usually interesting.

In the matter of complaints against local truck dealers, the main complaint was registered, as might be expected, against service. Over half of the owners registered some sort of a kick against the service rendered by local truck dealers. It was declared by the owners that certain truck dealers were extremely slow with their service, that the service was slipshod and inefficient, that the service departments never turned out work when promised, and so on. And it was evident that, in several instances, this trouble about service would influence owners to buy other trucks than their present makes when they were again in the market. This indicated to the dealer, more forcefully than anything else ever had, just how tremendously important a good service department is, in his efforts to sell more trucks. The other complaints were of a very minor nature and mostly dealt with the failure of dealers to deliver trucks when they had promised to deliver them.

That Bird's a Back Number

All of which, as has been said before, proved very interesting and very valuable to the dealer who conducted the investigation and all of which, it is hoped, will prove equally interesting and valuable to other dealers in so arranging their work as to get more business.

Selecting the Proper Type Tire for the Load

By C. K. WHIDDEN, Manager Truck Tire Department, U. S. Tire Company

DURING the past few years the development of truck tires has disclosed many economic changes which have greatly helped towards putting motor truck transportation on an economical and sound basis.

Usually, however, when any radical changes are made there are many misunderstandings. While these misunderstandings do not lessen the value of the changes, they are apt to cause serious doubts in the minds of truck dealers and individual truck owners regarding the practicability of the changes.

This fact was very noticeable when pneumatic truck tires first made their appearance. Many truck owners, because of lack of information, changed without due thought from solid tires to pneumatic truck tires only to find out later that pneumatic truck tires would not answer their purpose as well as solid tires.

During the past year the cushion tire has become recognized as a commercial necessity. But again mistakes are being made. The remarkable reception accorded to cushion tires by truck owners has led to the use of the tires in kinds of service where early failure has been experienced, not because of fault in the tire, but because it has been used where it should not have been used.

The cushion tire is a solid tire with a hollow center. It is not reasonable to suppose that a solid tire with a hollow center would have the same load carrying capacity as a solid tire. These cushion tires get their easy riding qualities through their ability to distort and if, under a too heavy load, the distortion is too pronounced side-stress will result and a break-down is the natural outcome.

Pneumatics Essential to Speed

Investigation shows that a certain class of vehicles should be equipped with pneumatic tires even though cushion tires would give a sufficient amount of cushioning to protect the load. These are the vehicles which must operate at a high rate of speed. Cushion tires will not stand up in this kind of service.

If a heavy load must be carried, even though the speed is not high, the solid tire should be used because of its greater ability to stand up under heavy loads. Tires should not be overloaded, of course, but where the load is heavy neither cushion tires nor pneumatics will serve as well as solids.

Pneumatic truck tires should be used for light loads where speed is essential or where the load is of such a fragile nature as to require special cushioning. Solid tires may be used for heavy loads of all kinds or where no special cushioning is required.

Where Cushion Tires Function Best

The cushion tire may be used for reasonably heavy loads where considerable cushioning is required, but where speed is not an essential. For moderate loads moving at a slow rate of speed the cushion tire is very satisfactory, as it affords special protection to the truck against wear and tear.

The cushion tire will break down under abuse as quickly as the pneumatic. Loads and speeds beyond those under which each size is designed to operate will quickly bring disintegration. It is a general rule and one easy to remember that a given size of cushion tire is rated to carry the same load as the next size smaller solid tire.

These Five Graham Brothers' Trucks Now in the Service of the Ohio State Division of Mines Were Chosen as the Result of a Competitive Demonstration in Which There Were Seven Entrants.

Heretofore it had been customary to use special railroad cars in mine rescue service. With this type of equipment the efficiency of the service was greatly curtailed by the roundabout courses to the scenes of disaster. Besides the cost of these cars were prohibitive, preventing an efficient distribution of the bases. With trucks, however, the State is enabled to provide stations at strategic points throughout the coal belt of Ohio.

Removable Body Equipment Proves Itself

Many of the Country's Largest Grocers Are Thoroughly Sold on the Removable Body Idea. Adoption of This Method Has Resulted in Business Expansion, Efficient Handling of Products and a Reduction in Delivery Costs

Gasoline Truck Backing Up to Freight Platform, Elevating Shoes at Rear Will Elevate Track to Platform Level

THERE are no long lines of motor trucks and drays at Sioux City freight stations, waiting their turn to load or unload freight!

And at many of the busiest jobbing houses, great many-storied brick buildings through which a tremendous volume of merchandise flows, there is no crowding of trucks and drays about the shipping platforms.

All because these jobbing houses have seen the wisdom of using motor trucks with **removable bodies, and have sold the railroad companies on the great advantage of co-operating** to the extent of setting aside certain doors in their freight sheds where tracks are laid to receive the truck bodies.

Where long lines of profit-eating teams and trucks formerly stood and waited for their turn at the freight station or at the loading platforms, today bustling trucks slip up, roll a five-ton load off in a few seconds, shift to another door where a load awaits them and beat it off without any confusion or delay.

W. S. Warfield, president of Tolerton & Warfield Co., wholesale grocers, is largely responsible for this change. He pioneered with his first set of removable bodies, made by the Ideal Truck Equipment Company, of Chicago, and it was not long before the other wholesalers in Sioux City saw the economy of the system he was using. One by one they fell into line, till today there are over 60 of these bodies in use. Congestion is at an end, while shipping costs have been very materially reduced. Goods are handled in much less time, and Sioux City has one of the most efficient haulage systems in the country.

Walker electric trucks and gasoline trucks of various makes are used in handling these bodies, which work equally well on either the gas or electric truck chassis.

How Moore Cut Haulage Costs

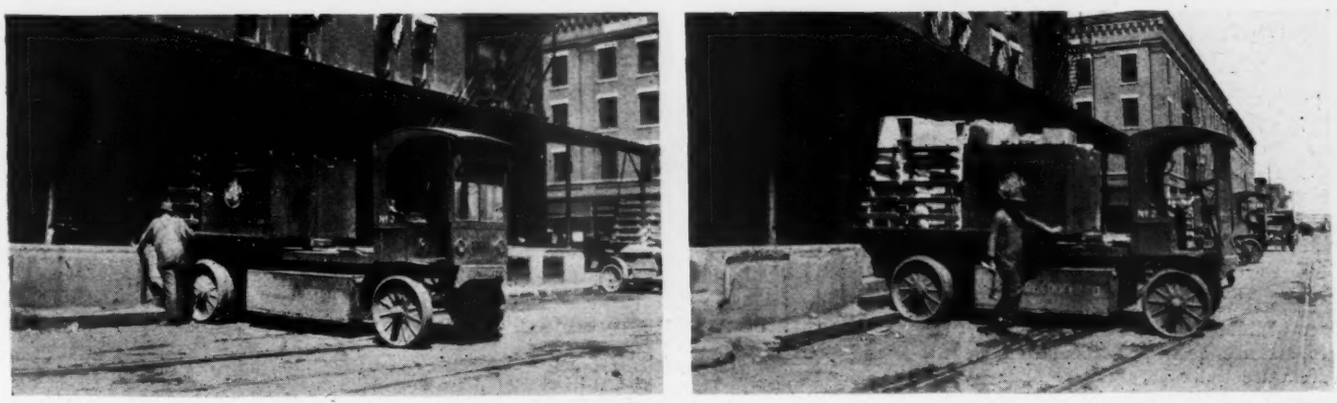
Gross sales in a business institution may be very large indeed, but if inefficient transportation methods eat up what might be a very handsome net profit, that institution might better not be in existence.

Five years ago the O. J. Moore Grocer Company, a big jobbing house in Sioux City. Iowa, decided that horse-drawn drays were eating up too much of its real profits, and in addition were slowing down its business because of their inability to handle its products rapidly.

Walker electric trucks with several Ideal demountable bodies to each truck were purchased to replace the teams, and today the Moore company has one of the most efficient haulage systems in the United States, has cut its haulage costs to a figure never before dreamed of and the business has expanded greatly because deliveries are always treading on the heels of sales.

At this writing the Moore Company is using 16 Ideal demountable bodies, and these are handled by two 3½-ton trucks, two 4-ton trucks and one 5-ton truck.

"Formerly," says Mr. Moore, "a team with a load would go to the freight depot and perhaps wait hours to get to a door and be unloaded. Now, one of our trucks goes to the depot with a load and **immediately** backs up to a freight receiving door reserved for us, the loaded body is rolled off into the depot and the truck is



Left: Rolling an Empty Body Off by Hand at O. J. Moore Grocer Company. Right: Five Ton Load Rolling Onto Truck by Gravity, Time Four Seconds to Load a Five-Ton Load

at once released to back up to another door, where it takes on an empty body and returns to our warehouse. This routine is repeated throughout the day. **One of our trucks can make forty trips a day** this way, whereas in the old days, **with teams, four or five trips** a day was the very best they could do.

"In handling bulk goods, like sugar, for instance, there is a big saving. Sugar stock is carried on our ground floor. An empty body is rolled right back to the sugar pile, one hundred feet from the doors, where one man loads, one man stencils the bags and one man checks. The loaded body is then rolled on to a truck, and the job is done.

"In a test we made some time ago the body was rolled back to the pile, on hundred bags were checked and loaded, and the load rolled on to a truck, which then went to the depot for delivery. The whole operation, loading, checking, putting the body on the truck and getting the load to the depot, took just **twelve minutes.** In the old days, with hand truckers carrying the bags to the dray at the loading doors, walking 200 ft. with loaded trucks and 200 ft. with empty trucks, and then the slow haul to the depot, it would have taken **well over an hour.** And the teams would be tied up during loading, while now the truck may be busy with other work."

Local Shipments Simplified

A big saving has been made by the Moore Company in handling its local shipments of merchandise that arrive at the freight depots. Formerly the company kept two or three teams busy all day handling these small shipments from the freight depots to the company's warehouse. Today, with the removable bodies, one to two hours only is required. This work is done early in the morning, and there is no delay in getting the merchandise, in hauling it to the warehouse, and in getting it into stock for immediate sale.

Jack Ryan, who has been with the company 34 years, is superintendent of the warehouse and of its outside haulage. He has travelled all over the United States investigating methods of handling merchandise inside of warehouses, and to and from outside points. As a result he has a co-ordinated system of handling the merchandise both outside and inside the warehouse that saves the company thousands of dollars a year.

For instance, at two of the warehouse doors tracks run back into the building, each long enough to hold five of the removable bodies. Five loads may be run on to one track, one after another, even though the men within may be busy elsewhere. Later, when they get to it, the first body in is unloaded, is picked up by a chain hoist on a trolley, and set over on the track running out of the next door, and the body is immediately available for use on one of the trucks, either to be loaded and sent out, or to go empty to a freight depot to pick up freight. The others are handled similarly, in turn, and there is at no time a moment's delay either of the men within the warehouse or of the trucks working outside.

More Deliveries—Less Cost

"There is no comparison between our present methods and the way we used to do this work with teams," says Mr. Ryan. "We used to use five or six teams in the morning, and as high as sixteen teams in the afternoons. In November of 1917, I ran a test on hauling our city deliveries. We used teams at $175 a month, and $1 an hour for any extra teams we used. We also had two gasoline trucks, and hired one extra to help out occasionally. The trucks we rented at $250 a month. Our haulage that month, on $75,000 worth of sales, cost us $948.

"In November, 1918, I ran another test with our present system of removable bodies and electric trucks, and no teams. We handled $125,000 worth of business, and the cost of hauling was $900. In other words, we handled two-fifths more business, at approximately $50 less cost.

"In our first year of operation of the removable body outfits we saved over $4,500 in haulage costs, on a total investment of $15,000. With our present outfit, and the improved facilities for handling merchandise inside our warehouse, we are saving far more than that each year.

"Under our present arrangements we can put in 21 empty bodies at night, load them during the night, and have them ready to shoot right out in the morning. They are on their way, every one of them, by 7:45 o'clock. This is something that could never be done any other way.

"In the old days men and teams had to stand idle hours during the day, for the congestion at loading and unloading was such that we simply could not keep them busy. There is no idle time now."

Hardware Jobbers Use Them

The Knapp-Spencer Hardware Company, large hardware jobbers at Sioux City, use only one five-ton Walker electric truck and use seven Ideal removable bodies with it.

"If you want to know what we think of this method of handling our haulage," said Mr. Knapp, "there is nothing we can say that is too good for it. It has saved us thousands of dollars a year in haulage costs alone, and it has simplified our in and out shipping beyond anything we ever dreamed of. Our truck and removable body outfit is now in its fifth year of service, and we are more pleased with results with each succeeding year.

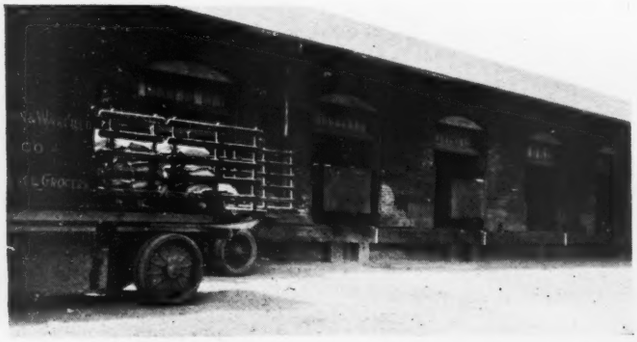
"Our profit has displaced seventeen teams, and our service is cheaper, quicker and more efficient in every way. It has cut our per ton haulage costs one-half, and has cut down the cost of handling our goods in our warehouse very considerably. For instance, in practically all cases we can load directly into the empty truck body, instead of stacking the goods on the floor near the door awaiting the return of a horse-drawn dray, as we used to do. This saves one handling of the goods. And there is no waiting when the truck returns and picks up the body that was loaded while it was out on delivery.

"One of the pleasant side lights on our present system is that when the horse-drawn outfits were displaced, they took with them all the rowdy hangers-on that always seem to follow that type of haulage. We are no longer bothered with them. The motor truck driver is too busy to loaf around with any friends, and besides, he is a much better type of man than the old drayman."

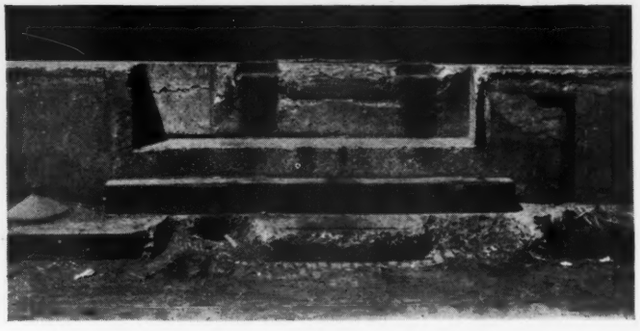
At the Freight Stations

All the Sioux City freight stations have doors assigned to the removable bodies, with tracks to carry them into the warehouse. At the C. M. & St. P. railway station, 12 doors out of the 35 are fitted with the tracks. H. W. Krohn, foreman at this depot, is enthusiastic in praise of this method of handling freight. He said:

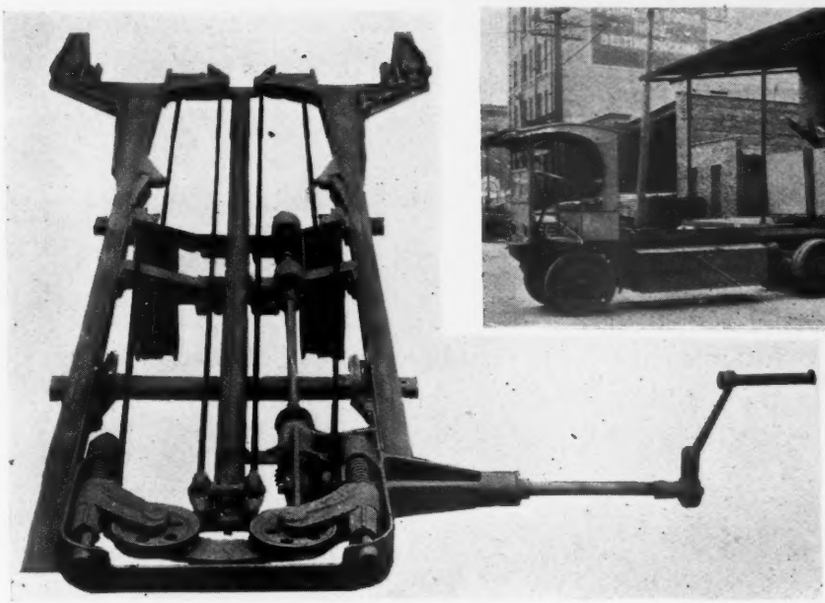
"Using removable bodies on trucks certainly saves us a lot of congestion outside the freight shed, and inside, too. It used to be that loads would have to wait till we could check them in, now they just roll one of these loads in whether we can check it or not and we check it in when we get to it while the



Left: Loaded Bodies in Doors of C. M. & St. P. Railway Freight Sheds



Right: Platform Construction for Receiving Rear End of Truck at O. J. Moore Grocer Company's Loading Platform



Above: Shipping Platform at Knapp & Spencer Hardware Co., Sioux City, Iowa, Showing Loaded and Empty Bodies.

Left: Ideal Removable Body Equipment, Hand Operated, as Applied to Truck Chassis.

truck goes away to do other work. And on incoming freight, we can truck much of it right from the freight cars into these empty bodies, standing on our floor, and this, of course, saves one handling for us. which is quite a saving.

"Some of the firms that don't have this removable body equipment were inclined to kick on our giving up doors to the companies that do have them, but as a matter of fact this system makes it better than it ever was before for the other firms. The congestion around the freight sheds is so much less they can always get to our doors quicker than before."

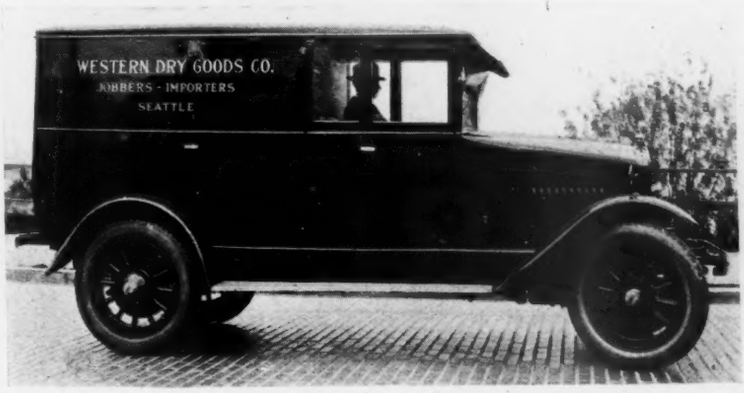
Many Other Users

In addition to the Moore and Knapp & Spencer Companies, there are many other users of the Ideal type of removable bodies in the Sioux City district. Other wholesale grocers using the bodies are the Wm. Tackaberry Co., Tolerton & Warfield Co., and Warfield-Pratt-Howell Co. The Cudahy Packing Co., Johnson Biscuit Co., and Curtis Sash & Door Co., are also users.

The Rotary Club of Washington in Pursuing Its Charitable Undertakings Purchased the Above Graham Brothers' Bus for the Accommodation of Some of Washington's Poor Children

Black & Decker Make Window Trim Awards

The window trim contest recently held by Black & Decker Mfg. Co., and won by W. C. Engel, Onondaga Auto Supply Co., Syracuse, N. Y., brought out a number of excellent windows and was the means of stimulating interest in trim work among all Black & Decker dealers. The first prize was $100. Other prizes were awarded as follows: 2nd prize, $75, F. W. Walker, Whipple's, Binghamton, N. Y.; 3rd prize, $50, H. C. Crabb, Belcher & Loomis Hdwe. Co., Providence, R. I.; 4th prize, $25, C. S. Conover, Banister & Pollard Co., Newark, N. J., and 5th prize, $15, J. C. Shumway, Kansas City Auto Supply Co., Kansas City, Mo. Ten $10 prizes were also awarded.



This is the Way the Western Dry Goods Company of Seattle Motorized Its Complete Sales Force

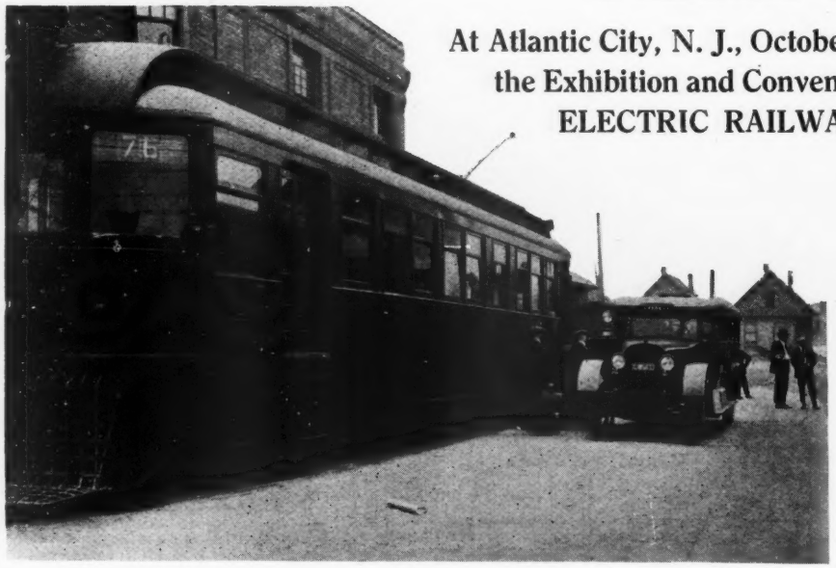
A fleet of 16 GMC salesmen's sedans, especially constructed to meet the exact requirements of the business, is now carrying samples of its complete line of merchandise into every part of the Pacific Northwest. With this car the salesman is independent of train schedule or transfer men. Into its specially designed compartments he packs the forty-two telescope cases which hold his complete line of samples that formerly required 14 trunks. No part of the salesman's territory is inaccessible with this equipment, in fact, he can drive up to the store door of his customer.

MOTOR BUSES

Will be Exhibited on the

Million Dollar Pier

At Atlantic City, N. J., October 8-12, in Connection With the Exhibition and Convention of the AMERICAN ELECTRIC RAILWAY ASSOCIATION



"The Bus is a Feeder to the Trolley"

This is a Big Opportunity for the Manufacturers of Motor Buses to Place Their Products Before the Largest Group of Potential Buyers. The Garford, Fageol, Reo, White and the Ace Buses Have Already Been Assigned Space.

Watch for Story Regarding This Exhibit and Convention in the August Issue of the COMMERCIAL CAR JOURNAL.

Full Details Regarding Space at This Exhibition Can be Obtained From the American Electric Railway Association, 8 West 40th St., New York City. J. W. Welsh, Executive Secretary.

The Million Dollar Pier, Atlantic City, N. J.

Road and Shop Service

Feature This Tire Business

M. A. Dooling & Sons, Solid Tire Distributors, Established a Real Business Because They Early Recognized the Importance of Service

WHEN a concern can confine its sales to only one product and prosper there must be something about that concern to bring it the fruits of success. It may be experience, salesmanship, service, quality of products, or, which is most likely, a combination of all. Also, if a concern that formerly carried a varied line of merchandise decides to forego all else in order to carry just one line there must be a real substantial reason for it.

M. A. Dooling & Sons, Philadelphia, Pa., did this very thing. This concern had decided to discontinue its accessory business entirely in order to more thoroughly and efficiently engage in the distribution of Kelly-Springfield Caterpillar Tires. Since profitable accessory merchandizing required quite some attention, which could only be given at the sacrifice of the proper direction of the tire business, Mr. Dooling decided to abandon the accessory business entirely. Investigation proved to his complete satisfaction that undivided concentration to the merchandizing of solid tires made such a step practical and profitable.

From the time the business was revolutionized into that of exclusive truck solid tire sales it had grown to such an extent that the old building of the concern soon became inadequate. The

Drive-in of the Modern Dooling Establishment

need for new quarters became imperative. To accommodate the increased business a new, modern building was erected at one of the city's most strategical truck sites—Belfield Ave., west of 15th St. The new home is located at the intersection of three prominent and well paved streets, extensively traversed by commercial vehicles of all types. The building which is of the flat-iron type commands a full view on all three streets, all of which it faces. Ready ingress and egress is afforded through a driveway opening into the shop on two streets. The shop and store room was laid out with a view of providing quick service and unhampered movement within the building.

The office, occupying the point, is well illuminated by natural light through large bulk windows, which are simply arranged with large sized solid tires and pleasing vase and floral effects. The office itself is neatly furnished in mahogany. The whole effect is that of simple refinement and business dignity. All business is transacted from this office. Sales, service and advertising for both the home and Norristown branch is handled direct from this point. Office routine has been thoroughly systemized, making for efficiency and accuracy. Tabs on all customers and prospects keeps this concern in constant and intimate relation with them. In designing the office procedure, provision had been made for the ready taking over of the additional office routine of any new branches that may be opened in the future. Additional branches are contemplated and will be opened in the near future.

Service is a word interpreted by this firm as it should be interpreted. Service is rendered both in shop and on the road. The type and speed of the road service is the one big drawing card. This alone has done much in inspiring confidence and developing a satisfied patronage. The road service as rendered by this company is something new in this particular line of business. Not only is a service truck, completely equipped with crane, tools, wheel-puller, jack, hammers, etc., always available and ready for emergency calls, but the costs to the owner no matter where he may be from, if he is a user of Kelly-Springfield tires, is no more than the actual cost to the distributor. No profits are made on service, but satisfied customers are always made.

A co-operative service plan between most of the Kelly-Springfield distributors assures the Kelly-Springfield user of service no matter where he may be. The Dooling company frequently receive emergency calls to help an out-of-town driver who has thrown a tire in its territory. A truck is immediately dispatched to the point and the driver is shortly ready to continue on his way without the loss of

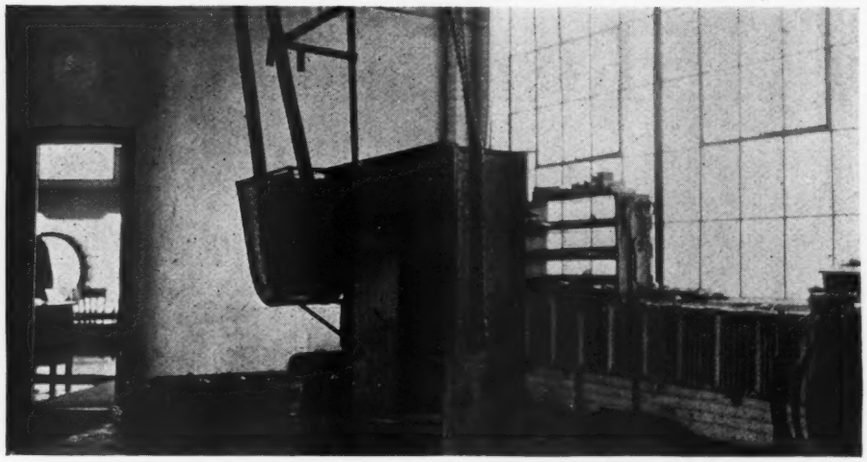
These Views of the Spacious Interior of the Dooling Repair Shop Show the Large Assortment of Tire Sizes and the Manner in Which the Delivery Car Receives Its Load of Pressed-on Tires Direct From the Press

considerable time. The bill may be charged direct to the distributor of his section, who will be billed by the Dooling company, or if satisfactory, the driver may pay for it at the time. This option is for the convenience of the owner and is appreciated. The value of road service lies in the fact that operation of any truck on rims is strictly prohibited. Road Laws penalizes the offender very severely. Consequently this type of service is an essential and when not taken advantage of by the distributor receives the confidence and business of the operator.

The service station itself is completely equipped to accommodate any service requirement. It is described as one of the most complete and modern shops in this section. Besides, it is amply capable of housing nine trucks without confusion at one time. The equipment includes a 250 ton hydraulic press, an overhead track, and chain block and tackle. This equipment permits the pressing on and off of tires to be accomplished with facility and dispatch. In addition there are any number of other devices. No matter what the make of truck or size of wheel the necessary implements for servicing are always available. All sizes of tires are always kept in stock. No size is permitted to run out. Just as soon as one size runs low it is immediately replenished. Disappointments are thereby avoided. A full line is always carried. It ranges from 32 x 3½ size to the giants of 40 x 14.

Not only is the equipment as complete as possible, but most important of all, the men employed in the shop are well experienced and of a calibre that takes heart in the interests of the concern. This spirit is born of the fellowship existing between employer and employe. These men take pride in rendering the quickest possible service. In fact they take particular pains to see that nothing has been neglected and that the work is accomplished thoroughly. As a result the customers feel perfectly safe that when a truck is placed in charge of this service station it will leave the station mechanically correct insofar as the wheels and rubber are concerned.

It is also interesting to note that this company with its modern equipment and character of workmen has been enabled to reduce the time required in changing tires to one third. Where it had been necessary to lay a truck up for two hours or more the same work is now accomplished in about 45 minutes.



This 250 Ton Hydraulic Press is Mounted on a Solid Concrete Base

Heavy wheels are placed and removed from the bed with comparatively little physical effort. An overhead track and chain and block arrangement does all the heavy work

Ford Expansion Program Affects Numerous Cities

One phase of the Ford Motor Company's expansion program, entailing the expenditure of millions of dollars, is strikingly illustrated in a survey of improvements made in assembly plants throughout the country, all of which have brought better business and employment conditions to the several cities affected.

The survey shows that every assembly plant of the company, numbering 28, is now in full operation.

The plant at Atlanta, Ga., has been considerably enlarged since its reopening a year ago. At that time its capacity was 150 cars and trucks a day. This already has been increased to 210 and when improvements are completed the maximum for an eight-hour day will be from 250 to 275.

The Cleveland, Ohio, assembly branch has been entirely re-equipped and is now assembling cars at the rate of 150 a day. A new electric enameling oven is in process of construction there to further facilitate the work. Several changes have been made at the Louisville, Ky., branch where a one-story addition has been erected. The assembly line has been removed from the third to the first floor, a body oven has been installed for drying all paint coats on open bodies, and the finished varnish coat on closed bodies, and a new type electric enameling oven is being erected. Production has been increased from 100 to 170 cars a day.

At Indianapolis, Ind., the branch assembly line has been greatly extended and dock facilities increased which permits this branch to turn out 300 cars a day. Denver, Colo., and Portland, Ore., have again been opened as assembly plants with daily production of 150 and 50 cars respectively. Columbus, Ohio, and Houston, Tex., branches have been equipped with extensive drying ovens and recently enameling ovens have been lengthened in twelve other assembly plants. The New Orleans, La., branch is now housed in a complete new building, 425 by 425 feet, employing approximately 700 men and turning out from 150 to 200 cars a day, together with 25 closed bodies daily.

Buses Are Now Employed by the Washington Railway and Electric Co., Washington, D. C., as Feeders and Extension Service for the Electric Street Railway Lines

Exterior and interior views of two of these Graham Brothers' buses now in service

Why Don't You Sell Electric Trucks, Mr. Dealer?

THERE are thousands of points in this country where electric trucks can be sold and the gas truck dealer is the logical individual to sell them. Any dealer, provided he is one of those individuals who is thinking in terms of transportation and not in truck units, will soon discover that there are many concerns located right in their own territory who could profitably use electric trucks.

Of course there are some dealers who just can't see the electric truck. They are so used to doing business on a price basis, that any attempt they would make to sell on the basis of economical transportation would be impossible. They are so used to bargaining and trading that they have entirely lost sight of their mission as transportation merchants. They don't know the meaning of the term.

It is to those who are planning for years to come that this article is dedicated. As we have said before in these columns, it is the new business that the dealer develops that counts most of all. Repeat business or trade-ins are the result of order taking whereas development of new territory and new prospects is salesmanship.

Because he is already selling a transportation product is sufficient reason why the gas truck dealer will sell the bulk of the electric truck production. Adding an electric to his line will give him an opportunity to sell either type of vehicle which will correctly meet the customer's requirements.

There are plenty of gas truck dealers who can recount many deals which they could have closed very easily had they been able to show some concrete evidence of economical operation.

Often the question is brought up by the dealer that the electric is much higher in first cost than the gas truck and that he cannot sell against the competition of the cheaper vehicle. That dealer must remember that although the first cost may be higher, it is the long life and greater operating economy that must be compared and not first cost.

Harmony within the ranks is very essential to the growth of the electric truck market. It hasn't been so very long ago that the battery salesman would rather see the sale go to the gas car trade than have the competitive battery concern get the order.

Some gas truck dealers are not enthusiastic about the electric truck simply because they view the electric truck as a competitive proposition. They have entirely overlooked the fact that the electric truck is the one transportation medium which can displace the horse and do the work the horse has done, more economically under horse operating conditions. That dealer who thinks the electric a competitor to the gas truck forgets entirely that in New York City over 70 per cent of the commercial haulage is still done by horse drawn teams. And this same relative condition holds good in every other community throughout the country?

The dealer who sells both electric and gas trucks will discover that the electric is not a competitor of the gas truck but a booster for sales. He will have an opportunity to sell just what the customer needs, not what the dealer has to sell and he will sell the electric for the short haul frequent stop delivery work and the gasoline truck for long hauls.

There is plenty of evidence at hand to show that where the horse has been winning out against the gasoline truck, the electric can step in and beat the horse by a 15 to 25 per cent margin.

The question today is not "can the electric prove its case"—but how soon will the truck dealer wake up to the advantage of sell the electric truck. A few years ago the heavy auto truck was considered the ideal trucking unit. Today we find the light delivery truck leading the field. But that does not indicate that the heavy duty vehicle will be put out of the running entirely by the lighter gas truck, any more than the steamship lines would attempt to run ferry boats across the Atlantic.

Furthermore the truck dealer who sells both gas and electrics will find it a great deal easier after breaking in against the horse on frequent stop routes to sell that same merchant gasoline trucks for the long routes.

Such a dealer does not have to face electric or gas competition. He is prepared to sell transportation. He can give the customer what he needs.

Another point that the dealer should consider. Every electric current producing concern, usually known as the central station, is a booster for the electric truck. These concerns have many men in the field who are promoting the sale of electric motors, generators, and electric appliances of all kinds. They are ever on the job to help the electric dealer. The more current consuming appliances sold, the more revenue the central station obtains, and the sale of one electric truck is worth more to the central station than the sale of a few hundred washing machines, vacuum cleaners, etc. The central stations will co-operate by keeping the dealer advised of all leads for the sale of electrics, so that the dealer will have a host of salesmen boosting his product.

Some gas truck dealers are biased on the electric truck simply because they have not taken the time to investigate its possibilities. There is a good profit in the sale of electrics and the service feature is a minor element. The electric truck is coming into its own. Truck buyers everywhere are inquiring about the electric truck. They are beginning to realize its advantages and economy in the short haul frequent stop delivery work. The future for the electric truck was never better and the wise dealer will take advantage of the situation.

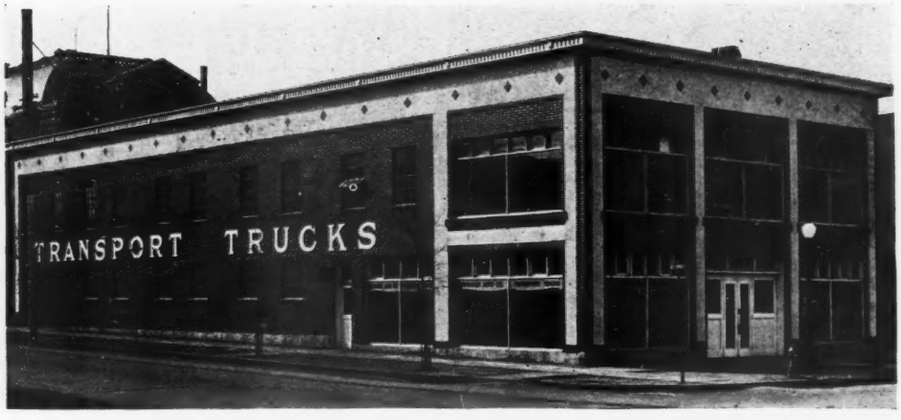
Some of the gas truck manufacturers are now preparing to supply their dealers with electric street trucks in addition to their present line. We prognosticate that much development concerning these will take place in the near future.

Are You Selling

The School Bus Idea

To Its Fullest Extent?

It Will Popularize Your Particular Make. It is a Constant Advertiser, and Will Bring a Desirable Revenue. Publicity and Enlightenment Are All That Are Necessary to Develop Community Interest and Action Along This Line. This Story of a Dealer Who Made a Success in This Endeavor Contains a Fund of Information



Home of the Swenson Auto Company, Distributors of Transport Trucks in the Denver Territory

WHY should the motor truck distributor be interested in selling school buses, was the question asked the Swenson Auto Co., Denver, Colo., distributor of Transport motor trucks. Of all advertising mediums or methods ever employed this company believes that the "school bus" has been productive, of the most elastic benefits.

From an advertising standpoint consider what it means to the local dealer to have his trucks, all dressed up with a beautiful body, drive up each morning to practically every farmhouse in the school district and take the little ones off to school. Besides every one of those youngsters is an unconscious publicist and salesman. Every last one of them will tell that their school convevance is a Transport.

Although here and there a real effort to develop increased activity along the school bus idea is being evidenced, it has been surprising to note that the truck manufacturer and the dealer have failed heretofore to realize the magnitude of truck business that can be secured by more publicity and enlightenment along this line of endeavor.

(*Continued on page 66*)

Will Present Prosperity in the Commercial Car Industry Continue, and Why?

WE ARE now entering the second cycle of the commercial car industry, and are upon the threshold of a new transportation era which will be a revelation to those who have given it but a passing thought, but to those of us who have given the best years of our lives to pioneering and working out our visions of motor transportation there will come great satisfaction in seeing its realization.

B. A. GRAMM, Vice-President
Gramm-Bernstein Motor Truck Company

The motor truck has been proven and is now recognized as a vital necessity in the economic life of our nation, in the handling and distribution of everything that we eat, wear, manufacture or use. Therefore we should not consider the growth of the motor truck industry as being due to prosperity, but as the logical result of a vital transportation necessity.

There must be less investment in inventories, a greater turnover of invested capital, a lessening and simplifying of models, a far greater saving in the service end to the user, and above all, a fitting of the truck to the user's business, instead of the business to the truck.

I am firmly convinced that the commercial car is just entering a period of greater usefulness and we will now see a very rapid expansion along these lines; and that the volume of business increasing yearly will be highly satisfactory to the industry, providing the motor truck manufacturers refrain from extensive expansion, as this should only go along with the increased business life of the nation, and not with spasmodic period of prosperity.

B. A. Gramm

IF you want to hook up with a real human crowd of truck merchandisers with the most modern truck line made -get a FEDERAL selling franchise

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

EDITORIALS

The Well-Equipped Shop

WE wish to call attention to an article in this issue, concerning the use of modern shop equipment and the plan of charging the customer by the job rather than by the hour. This is a subject to which every shop must sooner or later give consideration.

One reason why the proprietor of the smaller shop does not take quickly to the plan is because he believes it requires a large investment in tools and machinery. Such is not the idea however of the flat-rate or by-the-job plan.

No sensible person would expect the shop owner to purchase a lot of tools simply to conform to the idea of having a well-equipped shop. Neither can any shop hope to install a flat-rate plan without having time and labor saving machinery. Neither should the shop try to do too many jobs on the flat-rate plan There are certain operations which lend themselves admirably to the plan and others do not. One thing which such a plan encourages is the systematic handling and use of tools.

In fact many repair shops would be on the road to betterment if they did nothing else but buy sufficient wrenches to handle the different jobs efficiently. And the next thing to do is to see that those wrenches are available when needed. More time is wasted on many repair jobs hunting tools—looking all over the shop for this or that tool—that it isn't any wonder that the cost of repair work is more than the owner expects it to be. If the owner is charged a flat-rate such leaks cannot exist, and the tendency is to promote not only better co-operation among the mechanics but more system. No matter how small the shop is—some system can be installed which will help reduce the overhead and increase the profits. The dirty, messy shop never pays.

Overhauling the Water System

THERE is, of course, no regular season for overhauling motor trucks, but there are certain periods during the year when it would pay the dealer's service station to advise all his customers to bring in their trucks for a thorough inspection and overhauling of certain units. This is the time of the year, for instance, when cooling systems are giving trouble. Many trucks have been run all winter with anti-freezing compounds in the cooling system. But with the approach of hot weather many truck owners fail to remove this, with the result that the motor will be found to overheat excessively on hot days.

Many cooling systems are neglected during the winter months; fan belts have been run ragged; hose connections are in bad shape and so on, all because the individual owner, and particularly the one who does his own garaging is so apt to neglect these units. A thorough cleaning out of the radiator and the water jackets will do much to prevent overheating, which is many times blamed on improper fan angle or the wrong grade of lubricating oil. The service station that will systematically check up such things with the owner cannot help but obtain the confidence of the owner, and at the same time keep the cash register working.

The Proper Spirit

NEVER before in the history of the automotive industry have we seen a better spirit of co-operation manifested than that expressed by the Ward Motor Vehicle Co., in its June advertisement in this publication when it welcomes the Autocar Company into the electric field. It proves one thing that when a concern is selling a commodity which fills a definite need and that need is transportation, it does not have to fear competition. It welcomes it. This company realizes the importance of having more manufacturers in the field and that there is plenty of business to be had by all of them.

The Gasoline Tax

THIRTY-FIVE of our states have passed a gasoline tax, at the time of this writing, but of that number only two have reduced or eliminated other special taxes. Many individuals have been under the impression that the gasoline tax would automatically eliminate or reduce other forms of taxes. This publication and the various trade bodies representing the automotive industry are not against equitable taxes, but why single out the automotive industry every time a deficit in state funds has to be met.

Why not tax every other form of transportation, such as the railroads, the street car lines, horse drawn vehicles, steamship lines, motor boats, etc.?

Why should the automotive industry always be the goat? Why should the auto and truck owner be selected as the individual to make up the deficit on a school fund tax?

News of the Trade in Brief

Gasoline Tax Movement Reaching Alarming Proportions

Thirty-five states now impose a gasoline tax on motor vehicles, according to compilations made by the Motor Vehicle Conference Committee. During 1923, 16 more states passed "gas" taxes and eight increased the size of the taxes.

At the close of 1920 only four states imposed these taxes. In 1921 10 more joined the list and four more were added in 1922. Arizona, Connecticut, Delaware, Georgia, Kentucky, Louisiana, Maine, Maryland, Mississippi, New Hampshire, New Mexico, North Dakota, Oklahoma, Oregon, Texas, Vermont, Washington, and Wyoming now have a one cent tax; Alabama, California, Colorado, Idaho, Indiana, Montana, Nevada, Pennsylvania, South Dakota, Tennessee, Utah, West Virginia have a two cent tax, while the three cent tax prevails in Arkansas, North Carolina, South Carolina, Virginia, and Florida. Delaware will be two cents after December 31, 1923; Maryland, Washington and New Hampshire, two cents after January 1, 1924.

The 1923 session of the Michigan legislature enacted a bill providing for a 2 cent tax but the governor vetoed the measure. Likewise the Governor of Arizona vetoed a bill which aimed to increase the present 1 cent tax to 3 cents a gallon.

In Massachusetts a law imposing a two cent tax was passed by the legislature and approved by the Governor, but in response to a demand on the part of the requisite number of citizens a popular referendum on the law will be held in 1925 which therefore automatically suspends the collection of the tax until the people have expressed their will upon it.

The Ohio law-makers after introducing and considering seven gasoline tax bills decided to appoint a special committee to investigate the entire subject and report their findings and recommendations to the next session of the legislature. In Minnesota on the other hand, a law was passed providing for an amendment to the State Constitution so as to make possible and legal the imposition of a gasoline tax when the legislature convenes.

An interesting and significant side-light on the gasoline tax movement is shed by Oregon Senate Concurrent Resolution No. 4, which is a law providing for a conference between the states of Oregon, Washington, Idaho and California "to confer upon the desirability and practicability of uniformity of laws as to a tax on gasoline.

While many persons are urging gasoline taxes to take the place of registration fees and other forms of special levies on motor vehicle operation, it is important to note that only in two of the thirty-five states which have so far enacted motor fuel taxes has there been the elimination or reduction of other forms of special levies.

In California privately used motor vehicles must henceforth pay an annual flat-rate registration fee of $3, while in Utah there has been a 50 per cent reduction in the registration fees for passenger cars and the same for trucks of ½ to ¾ ton capacity.

On the other hand, of the sixteen states adopting gasoline taxes this year and the eight others increasing the rate of their existing taxes, seven of them actually made increases of one kind or another in some or all of their annual registration fees. This was particularly true with regard to trucks of the larger capacities.

At the present a special committee of the National Automobile Chamber of Commerce is making a careful and thorough study of all the facts and factors involved in the question of Gasoline Taxation.

Coming Events

CONVENTIONS

Atlantic City, N. J., October 8 to 12, 1923—Convention and exhibition of the American Electric Railway Association, at Million Dollar Pier. Office address, 8 W. 40th St., New York City.

Bakersfield, Calif., October, 1923—Annual convention of the California Automobile Trade Association.

Chicago, Ill., July 23 to 24, 1923—First national conference of automobile trade secretaries and managers under the auspices of the National Automobile Dealers' Association, Hotel Drake.

Chicago, Ill., November 12 to 17, 1923—Annual convention and exhibition of the Automotive Equipment Association at the Coliseum.

Cleveland, O., October 24 to 26, 1923—30th annual convention of the National Association of Farm Equipment Manutacturers, Hotel Statler.

Cleveland, O., October 13 to 20, 1923—Production meeting of the Society of Automotive Engineers.

Detroit, Mich., January, 1924—Annual Meeting of the Society of Automotive Engineers.

Erie, Pa., August 13 to 14, 1923—Annual convention of the Pennsylvania Automotive Association.

Mobile, Ala., July 23, 1923—Semi-annual meeting of the Alabama Automotive Trades Association.

New York, N. Y., November 13 to 15, 1923—Annual convention of the National Tire Dealers Assn., Greater New York Tire Dealers Assn., as hosts.

Olympia, Wash., July, 1923—Midsummer convention of the Washington Automobile Trade Association.

SHOWS

Dallas, Texas, October 13 to 28, 1923—Annual Fall show of the Dallas Automobile Trades Association.

Fresno, Cal., September 28 to October 5, 1923—Automobile show, auspices of the Fresno Automobile Dealers' Association. Ray W. Wakefield, Mgr.

Green Bay, Wis., August 27 to 30, 1923—Annual automobile show, auspices of Green Bay Association of Commerce, Brown County Fair Grounds. W. F. Kermin, manager.

Little Rock, Ark., October 8 to 13, 1923—Annual automobile show, auspices of Little Rock Automobile Dealers' Association. A. W. Parke, manager.

Memphis, Tenn., September 23 to 30, 1923—Annual automobile show, Tri-State Fair Grounds. Memphis Automobile Dealers' Association. Thomas T. Smart, manager.

Sacramento, Cal., September 3 to 8, 1923—Annual automobile show, auspices of Motor Dealers' Association. State Exposition Grounds. H. W. Leonard, manager.

Waco, Texas, October 20 to November 5, 1923—Annual automobile show of Waco Automobile Dealers' Association, Texas Cotton Palace Exposition.

Christmas Gift Campaign Introduced at A. E. A. Convention

One of the features of the spring meeting of the Automotive Equipment Association, held at The Balsams, Dixville Notch, N. H., June 25-29 was the launching of a big merchandising campaign to promote the idea of automotive gifts for Christmas. While the plan provides largely for the stimulation of equipment and accessory sales it also includes consideration of service certificates or cards for both mechanical and electrical. The merchandising committee believes that the service stations of the dealers can, by aggressive selling, dispose of a large number of these service certificates to those members of the family desiring to make a suitable gift. While the plan bears the earmarks of a passenger car merchandising plan, certain of its features could be utilized by the truck dealer.

It is not believed that the driver will desire to present his employer with automotive Christmas gifts or service cards but it is reasonable to believe that the truck owner can find a number of suitable and appropriate gifts, personal conveniences, which would be appreciated by the drivers. The plan is worthy of consideration.

The convention functioned smoothly from the opening meeting to the close. The first two days were given over to the board and committee meetings and on Wednesday the stage was set for the business events. A number of new members were elected. In the afternoon divisional meetings were held by the jobbers and manufacturers and these later convened together and listened to the recommendations made by each.

Fitting tribute was paid to the New Englanders for the service rendered by Commissioner Webster in his address. In his report Mr. Webster made a number of recommendations of routine nature which were later adopted. Reports were also made by the standardization, railroad classification, labor, catalog, good roads and highways, state presidents and merchandising committees.

The only matter bringing about any debate on the floor was that of dues. The board of directors recommended a slight increase in the annual amount which met with opposition, and the negatives won in the vote.

The question of changing the time of the Spring meeting, advancing it to April was brought up and it is believed that the event will be held in New Orleans the first week in April.

Three new members were elected to the merchandising committee, these being W. F. Ozburn, Arthur Storz and Russel Proctor. Nelson Oliver. R. A. Stranahan, L. A. Safford and Wm. Wissler continue on the committee.

New Rubber Manufacturers' Association Now in Formation

A new rubber organization, to be known as the American Rubber Manufacturers, Inc., has been formed in New York, with T. R. Palmer, of the Continental Rubber Works, Erie, Pa., as president. Announcements also include the election of C. E. Murray, of the Murray Rubber Co., Trenton, N. J., treasurer and O. M. Mason, Mason Tire & Rubber Co., Kent, O., as secretary pro-tem. Directors include the above named three, Harvey S. Firestone of the Firestone Tire & Rubber Co., and L. A. Brown, Firestone-Apsley Co., Hudson, Mass.

In a statement on the new association Mr. Palmer said : "It is our purpose to look after the interests and problems of the rubber manufacturers. We believe our interests will be dealt with more satisfactorily through an association composed exclusively of rubber manufacturers and not affected by outside interests. Our aims will be for the solution of problems that confront the rubber manufacturer. We believe in liberal production and free movement of crude rubber, unhampered by legislation that creates an artificial price for the product. Rubber production and exportation must be regulated only by the natural law of supply and demand."

Bruce Made Head of American Hammered Piston Ring

Albert C. Bruce, former vice-president and general manager of the American Hammered Piston Ring Co., has been appointed president of that company to succeed C. F. Hockley, whose duties as vice-president of the Bartlett Hayward Co., the parent company of the American Hammered Piston Ring Co., require practically his entire attention. Mr. Hockley will continue his connection with the Piston Ring Co., acting as chairman of the board of directors.

W. C. Stettinius, who for the past 18 months has been serving in the capacity of sales manager of the Equipment Division, has been made first vice-president and general manager. The rise of Mr. Stettinius has been rapid, he having come with the company about four years ago to take up duties in the manufacturing end of the business and after serving in various capacities in the shop, he was made sales manager of the Equipment Division, a position which he has handled with unusual success.

Thos. B. Blakiston, in addition to serving as general sales manager of the Replacement Division, has been appointed vice-president.

E. M. T. A. Holds Annual Outing

The annual outing of the Electric Motor Truck Association, was held at the "country home" of the New York Athletic Club, Travers Island, on July 12. Swimming, tennis, baseball, followed by a banquet, constituted the day's program.

M. A. M. A. CONVENTION SEPTEMBER 19 to 21

The Fall convention of the Motor and Accessory Manufacturers Association will be held this year at Boston Mass. from September 19 to 21, possibly running over to September 22. These conventions have been held in Cleveland, Buffalo and Detroit, so it was thought advisable to swing the conference to New England, as there is a strong M. A. M. A. representation in that part of the field.

It is the intention of the Association to make the meeting a fairly comprehensive congress of automotive leaders and executives. In addition to the general sessions of interest to practically all the membership and the industry as a whole, there will be special meetings for the credit managers, financial executives, sales and advertising chiefs, foreign trade directors and traffic men.

Clifton Again Heads the N. A. C. C.

Charles Clifton was re-elected President of the National Automobile Chamber of Commerce at the annual meeting in New York recently. Officers elected for the year were as follows: President, Charles Clifton (Pierce-Arrow); vice-president, Roy D. Chapin (Hudson); second vice-president, C. C. Hanch (Lexington), (Passenger Car Division); second vice-president, Windsor T. White (White), (Motor Truck Division); secretary, A. J. Brosseau (Mack); treasurer, H. H. Rice (Cadillac). Five Directors elected for terms of three years were: Charles Clifton, (Pierce-Arrow); F. J. Haynes, (Dodge); H. M. Jewett, (Paige-Detroit); Windsor T. White, (White); Alfred H. Swayne, (General Motors Truck). Alfred Reeves was re-elected as general manager.

Horace De Lisser

Horace De Lisser, founder and chairman of the board of the Ajax Rubber Co., New York City, died at his home June 27, after a brief illness. He has been one of the prominent figures in the rubber industry for a number of years.

H. K. Curll
Has been placed in charge of the sales of motor trucks for the International Harvester Co.

N. T. D. A. 1923 Convention Will be Held at New York

New York City was selected as the scene of the 1923 convention of the National Tire Dealers' Association at a meeting of the board of directors in Chicago on June 19th. The annual gathering of tire dealers from all sections of the country will be held on Nov. 13-15.

In addition to deciding upon the location and dates of the convention, the board of directors, at its meeting, discussed general conditions in the trade, the work that the N. T. D. A. can do to better the situation in the tire business at large, and adopted a resolution condemning the recent reduction of tire prices. President George J. Burger, presided at the board metting.

A survey of conditions in the retail field, made the N. T. D. A. during May, disclosed that tire dealers in every section of the country were tremendously overstocked, having on their shelves sufficient tires to fill their requirements for from 60 to 90-day periods. This situation was brought about, the dealers explained, by the backward season and the heavy purchases made on the strength of price advancements early this year. Mr. Burger reported to the directors, that under normal conditions the dealer should have entered June with about 30 days stock on hand and fill-in orders placed with the manufacturer.

The directors reported that the dealers in their respective localities were demoralized by the price drop made on June 11, and that none of them felt he would be able to come through the present season without suffering a heavy loss. It was held by the board that the recent price reduction, coming at the beginning of the heavy selling season, could not mean an increase in the sale of tires, but would only develop in the mind of the consumer a desire to defer tire purchases until rock bottom prices had been reached. That the dealers do not feel that lower prices will stimulate sales is indicated by this resolution, which follows:

"RESOLVED, that the National Tire Dealers' Association, through its Board of Directors, in assembly at Chicago on June 19th, 1923, express its most vigorous condemnation of the action of the Firestone Tire & Rubber Company in advertising a reduction in tire prices just at the time when the public was beginning to purchase tires confidently at the existing level of prices.

"BE IT FURTHER RESOLVED, that the National Association regards this action by the Firestone Tire & Rubber Company, as particularly detrimental to tire dealers, most of whom are carrying liberal stocks. We believe that the advertising of a price reduction at this time was unsettling to the entire industry without any offsetting gain to anyone.

"AND BE IT FURTHER RESOLVED, that copies of this resolution be sent to all members of the National Tire Dealers' Association, for their information; and that copies be also sent to all manufacturers."

The National Association was shown to be in a healthier financial condition than ever before, current indebtedness having been wiped out and an encouraging reserve fund built up for the future promotional activities.

New Armored Car Company Incorporated in Delaware

Adams Express Armored Car Co., which was organized under the laws of Delaware, with an authorized capital of $1,000,000, has taken over the business formerly conducted by the Adams Express Co. of the transportation of money, bullion and securities locally within Federal Reserve cities.

This enterprise was begun by the Adams Express Co. in New York City in March, 1922, and has rapidly developed into a business of considerable magnitude.

The service primarily is of the transportation between banks and financial institutions, including the Federal Reserve, stock clearing associations and other similar concerns, of cash, bullion, stocks, bonds and other securities, requiring special protection in these days of daring hold-ups. The company has also instituted a service for the collection of bank deposits and the transportation of payroll moneys.

The vehicles in which these valuables are transported are a unique contribution to the vehicle traffic of the present day. The bodies of these vehicles are constructed with a complete steel shell of armor plate, resisting any projectile of less strength than light artillery, and all of the openings in the car are filled with bullet-proof glass. A uniformed crew of four or five specially trained men accompanies each car.

While from the rapid development of the business in New York City, and the difficulty of securing cars of the special construction required for this business, the company's operations have been confined to New York and immediate surroundings to the present time, it is expected that they will open their service in Philadelphia at no distant date, and will follow rapidly with the institution of a similar service in all Federal Reserve cities, and possibly some others.

Executive offices are located at 61 Broadway, New York City.

Post Office Department Buying Electric Trucks

Continued consideration over a period of years has resulted in the purchase of 16 electric trucks by the United States Post Office authorities. These vehicles include 4 trucks each manufactured by four different companies: Commercial Truck Co., the Autocar Sales & Service Co., Ward Motor Vehicle Co. and the Walker Vehicle Co.

The trucks will be used in New York, Boston, Chicago, Philadelphia, Detroit, St. Louis, Washington, D. C. and other cities. Careful record of operating costs as compared with gas car operating costs will be kept and this data will undoubtedly influence the future purchases of electric trucks for Post Office use.

It is interesting to note that a few years ago W. G. Richards estimated that there would be an annual saving of $200,000 in New York City alone and more than a million dollars the country over if gas trucks were replaced by electrics for Post Office service.

MOTOR TRANSPORT SHOW POSTPONED

The National Motor Transport Show scheduled for September 1 to 8, at the Coliseum, Chicago, under the auspices of the Motor Truck Industries, Inc., has been postponed, according to an announcement by Don F. Whittaker, secretary and general manager of that association.

"While we received a great many applications from the leading truck, parts and equipment manufacturers," said Mr. Whittaker, "we concluded that the only dates for which we could secure the Coliseum were not favorable, and at that time such an exhibition could not attract a large number of exhibitors to make the show truly representative of the industry. At the time plans were first made, we concluded not to hold an exhibition unless it can be a much more successful event than truck shows have been heretofore, and this has considerable to do with our final decision."

The show will be held at a more favorable time later on.

Truck Cab Manufacturer Making Factory Additions

The General Woodwork Corp., 1225 Budd St., Cincinnati, O., manufacturer of the "Rain or Shine" cabs for trucks, is about to make additions to its plant facilities which will permit it to increase the business five-fold. A tract of land, 320 sq. ft., has been acquired which will give a frontage for inbound and outbound shipments, of some 332 ft., for track purposes and addition thereto, three switches entering into the premises.

Chamberlain Writing Book on Used-Car Problem

Percy Chamberlain, personally known to more motor car distributors and dealers than any other man in the automotive industry, is writing a book on the used car. The book will be published in the early fall.

The volume will deal with the used car from every angle, with its effects on dealer sales and particularly on dealer profits, and in its relation to factory production. Mr. Chamberlain has never been a man to suggest remedies for bad conditions in the industry without first getting right down to the cause, and in this case it is understood he has some constructive suggestions to make that will be startling, to say the least.

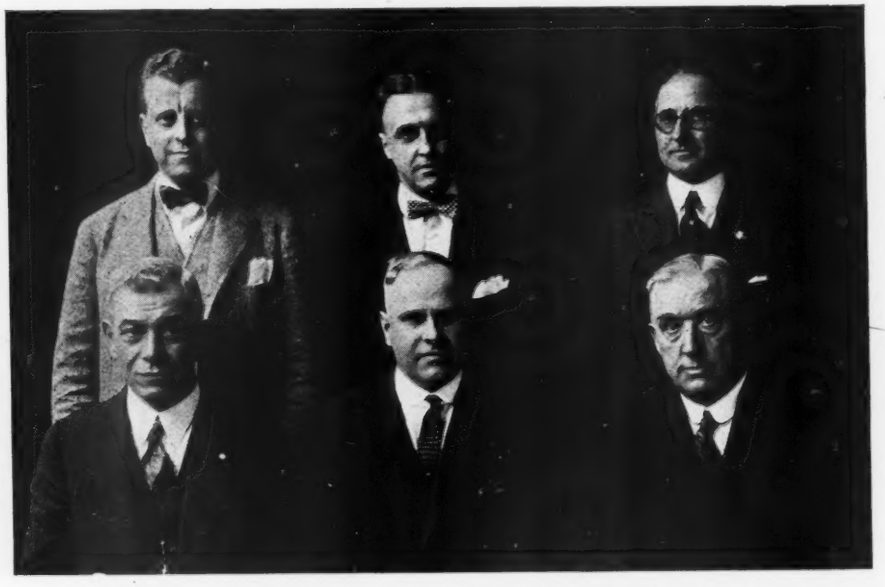
The Chamberlain book will run about 18,000 words, will be printed in a size convenient for the coat pocket, and conveniently indexed as to subjects.

N. E. L. A. Transportation of Guests Successfully Handled

Among the entertainment features provided for 7500 delegates to the convention of the National Electric Light Association at New York, June 4 to 8, were a number of inspection trips to local industries, the majority of these trips being made by motor vehicle.

For the inspection of the White Star liner Olympia, 38 sight seeing buses were used to transport 2000 people to the pier, involving a passenger mileage of 9320 miles. Nine buses took 400 delegates to the Hell Gate Power plant of the United Electric Light and Power Co., in the Bronx, adding another 5000 miles to the total.

Over 120,000 passenger miles were covered during the convention practically without mishap or delay.



Members of the Local Transportation Committee Who Made Possible the Excellent Transportation Facilities at the N. E. L. A. Convention

Top row, left to right: Charles R. Skinner, Jr., manager, automobile bureau, New York Edison Co.; John Stilwell (chairman of committee), general superintendent of transportation, Consolidated Gas Co.; J. R. Cox, superintendent of transportation, New York & Queens Electric Light & Power Co.; (Bottom row): H. V. Middleworth, superintendent of transportation, Consolidated Gas Co.; J. F. Lufkin, superintendent of transportation, United Electric Light & Power Co., and J. A. Taylor, superintendent of transportation, New York Edison Co.

Rubber Companies Continue to Reduce Prices

Tire reductions, begun several weeks ago by the Firestone Tire & Rubber Co., continue throughout the industry, the changes ranging from 5 to 15 per cent. Rumors of other reductions are also current in the trade. In many cases announcements have been made that these changes will take place in the immediate future.

A reduction of 11 per cent to consumers on its complete line has been announced by the United States Rubber Co. The Kelly-Springfield Tire Co., has revised its prices on the fabric line, also a nominal reduction in its grey tube line. The General Tire & Rubber Co., has notified its dealers of a 10 per cent reduction in its tires.

The Goodyear Tire & Rubber Co., reduction, is made retroactive as of June 11. The change of the Pennsylvania Rubber Co., list is a revision downward of 5 to 15 per cent. The Lee Tire & Rubber Co., has discounted its consumer's list, leaving dealers list about the same. The changes of the Goodrich Rubber Co., are identical with those of the United State Rubber Co. The decreases of the Fisk Rubber Co., range from 9 to 11 per cent.

The Brunswick-Balke-Collender Co., meets the price reduction by a revision, effective as of June 11. Rebates will be sent to all dealers on purchases during 30 days previous to June 11. The Speckels "Savage" Tire Co., reduction is effective as of June 11. The reduction of the Corduroy Tire Co., is dated June 27th. The new Mohawk Rubber Co., list went into effect on the 1st of July.

London Bus Company to Introduce New Bus Types

The London General Motorbus Co., according to a report to the Department of Commerce, intends soon to place a number of buses of a new type in the metropolitan service. They are known as the "K. S." type. The general points of interest in the new buses is a crooked frame, low loading line, and internal drive gear. The buses are designed with a low center of gravity. The floor is only about one foot nine inches from the ground, about a foot lower than the present type. Only one step is required of the passenger entering the bus. The buses seat 52 passengers. About 100 buses have been delivered at the General Motorbus Company's Chiswick works.

Buses Bring 5,500 to Binghamton Weekly

A conservative estimate made by the attaches of the bus terminal station at Binghamton, N. Y., places the number of people brought into the city weekly by motor buses at over 5,500, a figure that will be greatly increased with the coming of the Summer months and the addition of two new buses now on order. A fleet of 18 buses now supply their traffic in and out of the city, covering virtually every part of the country within a radius of 40 miles.

Automotive Conditions Sound, Say Industry's Leaders

At the regular meeting of the Board of Directors of the Motor and Acessory Manufacturers Association held on Friday, June 29th, the following statement was authorized:

Conditions in the automotive industry are not only outwardly flourishing, but fundamentally sound.

The volume of passenger car manufacturing continues to be satisfactory, with sales equally so. Wide distribution of passenger cars has been accomplished this season. In terms of credit these sales appear to be sound.

Truck manufacturers are increasing their production and sales. This branch of the automotive industry is coming back in a spirited manner.

In the matter of orders, parts manufacturers are quite well satisfied and gratified at the lack of any seasonal reduction or slowing down.

Bank support is remarkably good for the vehicle makers and the companies supplying them with material and parts.

Collections are reported as being uniformly good. The general credit condition is excellent.

There is no evidence of deferments, cancellations or suspensions of current manufacturing schedules. This shows that the car manufacturer and parts manufacturer have been wise in the matter of their commitments.

Labor is well employed in all branches of the automotive industry and continues to show a higher rate of efficiency than at any time since 1920.

The fundamental explanation of the current situation is that the world is hungry for more and better transportation. The automotive industry is meeting that demand, and meeting it efficiently. For this reason business is good and will continue to be good.

Steve Brogan Forms a New Advertising Agency

G. W. (Steve) Brogan, well-known advertising manager of the Black & Decker Mfg. Co., has announced the formation of G. W. Brogan, Inc., advertising agency. Mr. Brogan, who is one of the outstanding figures in the automobile equipment field, is 32 years of age. From 1917 to 1918 he held the position of advertising manager of the Duesenberg Motors Corp. His services as advertising manager of Black & Decker Co., began in 1919. He is the founder of Service Equipment Associates and at present is one of the three commissioners of that organization.

The new agency which Mr. Brogan has formed is somewhat unique in that it will specialize in merchandising as well as advertising, of items pertaining to the servicing of passenger cars, trucks and tractors, and will confine itself to the handling of a select list of related accounts coming under the general classifications "Replacement Parts" and "Service Equipment." The business will be limited to six accounts, three of which including that of Black & Decker, have already been arranged for.

Buses Will Help Solve Chicago's Traffic Congestion

A plan involving the extensive use of motor buses, for the solution of Chicago's transportation problem has been advanced by John A. Ritchie, president of the Chicago Motor Coach Co.

Under his plan, surface and elevated railways, subways and buses would be used. Surface and elevated cars, tracks and equipment would be removed from the loop, and a subway would be dug, while on the surface motor buses would be used.

"Below a certain number of passengers by the mile-route-year," said Mr. Ritchie in discussing the plan, the motor bus has an economic advantage over the surface railway. Improvements in buses in the future will undoubtedly operate to enlarge their field and reduce that of electric cars outside the more densely populated areas."

Mr. Ritchie declared that the motor bus was the best form of conveyance for four-fifths of the people. Not only does it carry passengers on complete trips, he said, but it acts as a feeder for elevated, steam, suburban and surface lines.

Emphasizing the advantage of motor buses, Mr. Ritchie declared that a $4 investment is required by a surface electric railway for every dollar of gross revenue, but only $1.25 is required in motor coach service.

"Haul for Hire" Men Hold Annual Convention

A highly interesting program covering a variety of pertinent subjects constituted the 21st annual convention of the National Team and Motor Truck Owners' Association, Inc., held at Milwaukee June 25 to 27.

Jos. X. Galvin, was re-elected president as the association would not listen to a change in leadership. All other officers were re-elected with the exception of the second vice-president Jos. W. Glenn of New York, who felt that his association with the Warehousemen's Association would not permit him to devote time to the N. T. & M. T. O. A. His place will be taken by Gerald Garvey. The executive board was increased to seven members.

The place of the next meeting was left until the mid-season meeting of the Executive Board. Several of the Resolutions adopted were:

Resolved, Would recommend that there should be some ways and means taken by this association either through co-operation with the truck manufacturers or otherwise to eliminate the selling of trade-in trucks to individuals in the trucking business.

RESOLUTION COMMITTEE.

* * *

We, the members of the N. T. & M. T. O. Assn., in our 21st annual convention assemble at Milwaukee, Wis., for the purpose of lending our assistance in promulgating transportation in general in these United States; and

Whereas, We are fully conscious of the important part our industry plays in this problem; and

Whereas, We know that transportation is one of the most essentials that the American people are confronted with, and that the success of our efforts can best be advanced through co-operation; therefore, be it

Resolved, That we in convention assembled do offer and herewith tender our hearty co-operation to the great railroads of these United States for the success of all of our transportation problems.

Personals

H. D. Baker has been announced as representative of the State of Michigan for the Roller-Smith Co., 233 Broadway, New York. Mr. Baker, who has been with that company in various capacities for several years, is located at 525 Woodward Ave., Detroit.

F. F. Chandler, for many years with the Chandler & Taylor Co., Indianapolis, has joined the Ross Gear & Tool Co., Lafayette, Ind. He will devote his activities to sales promotion on the new cam and lever steering gear. Mr. Chandler is chairman of the Indiana Section of the S. A. E. and is a trustee of Purdue University.

O. W. Davidis, representing Graham Brothers, Detroit, has opened an office at 315 Union Trust Bldg., Pittsburgh, Pa. Associated with him at this address is Harry J. Bostwick.

Nelson W. Dingwall, who was formerly vice-president of the New York Mitchell Motor Co., Inc., New York City, is now sales manager of the automotive division of the Snead & Co., Iron Works, Jersey City, N. J.

E. C. Duffy, who has been directly connected with the sales work in Canada for 19 of his 21 years of service with the International Harvester Co., Chicago, has been transferred to South Africa as sales representative. Mr. Duffy was given charge of truck sales in 1918 in Canada in connection with his other duties.

F. M. Hoblitt, general sales manager of the Ajax Rubber Co., Inc., 220 W. 57th St., New York City, has been made vice-president in charge of sales for that company.

Walter R. Howell, for the past year with the Curtis Company, Detroit as Merchandising Plan and Service man, has been appointed sales promotion manager of the Standard Motor Truck Co., of Detroit. He received his automotive advertising experience with Chalmers, Hupp, Paige-Detroit and Gramm-Bernstein. He will also assist F. J. Fisher, general sales manager of the company.

Conrad Hubert has been elected a director of the Pyrene Mfg. Co.. He is also a director of the Union Carbide and Carbon Co., and the U. S. Light & Heat Corp.

Roland P. Kelley, formerly of the White Company and more recently assistant advertising manager of the Timken Roller Bearing Co., has been made assistant advertising manager of the Autocar Company, Ardmore, Pa. Mr. Kelley is a Harvard graduate and saw service during the World War. He is an eastern man and his change in connections is due to a desire to locate in the East.

Ralph Leavenworth, formerly advertising manager of the Standard Parts Co., Cleveland, O., is now associated with Paul Teas, advertising counselor, Guardian Bldg., Cleveland. He will handle the Bock Bearing account, also the business paper advertising of the Eaton Axle & Spring Co.

James McEvoy, chief of the Patent Department, General Motors, is transferring his headquarters from Detroit to Dayton, where he is establishing offices in the laboratories of the General Motors Research Corp. L. M. Spencer and G. L. Lovett, of the Patent department, will also transfer to Dayton.

Karl B. Mickey, formerly with the Sherwin Williams Co., and the House of Hubbell, both of Cleveland, has been appointed advertising manager of the Eaton Axle & Spring Co., of Cleveland. He will make his headquarters at the Perfection Spring Plant at Cleveland.

Sam Murray, a native of Georgia, has been selected by the Ford Motor Co. to head their organization in Spain. Mr. Murray will locate at the factory in Barcelona.

L. H. Schultz, for the past 14 months with the Bureau of Foreign and Domestic Commerce of the Department of Commerce, as assistant to the chief of the Automotive Division, has resigned his position to take up work in the Export Dept., of the Yellow Cab Manufacturing Co., of Chicago in September.

S. S. Sonneborn, well known expert in moulded and insulation parts, has joined the Splitdorf Electrical Co., Newark, N. J. He will have charge of moulded parts of shellac, rubber and synthetic compositions. Mr. Sonneborn was for many years, general manager of the Electrose Manufacturing Co.

R. W. Sperry has been added to the Chicago sales force of the Tuthill Spring Co., of Chicago.

L. F. Stevens has been appointed special representative of the Autocar Sales & Service Co., 913 W. Jackson Blvd., to cover Chicago and vicinity.

Stanley P. Seward has been announced as advertising manager of the White Company, Cleveland, O. He succeeds M. H. Newton.

P. A. Swain, for three years, sales representative for Perfection springs in the west and southwest, has been appointed manager of the Perfection Spring Service Branch in New York City.

H. E. Taylor, for the past three years sales manager of the Las-Tik Patch Mfg. Co., has been announced as sales manager of the Farran-oid Co., Akron, O.

L. M. Van Riper, widely known in the tire industry, has been made vice-president in charge of sales for the Racine Rubber Co., with his headquarters at 222 W. 57th St., New York City. About a year ago he was appointed general sales manager and since that time he has helped materially in the development of the Racine Company's business.

Ernest H. Wehrle, who was formerly draftsman for the International Motor Co., has accepted a position as chief engineer of the Ranier Motor Corp., Flushing, N. Y.

Trade Changes

Charles Daniel Frey, advertising, has moved its offices from the Monroe Bldg., to the new 19th floor of the Peoples Trust & Savings Bank Bldg., 30 N. Michigan Ave., Detroit.

The Republic Truck Sales Co., has taken over the distribution of Republic trucks in the Kansas City territory. J. A. Keating is general manager of the new firm. Sales and service departments will be at 1717 Oak St., Kansas City, Mo.

The R-L Motive Parts, Inc., 1626 L St., N. W. Washington, D. C., has been organized to conduct a general automobile replacement parts business and to act as authorized operators of the Watkins rebabbitting system for connecting rods and engines. The firm is the national distributor for the Weems Non-Expanding piston made by M. K. Weems, Quincy, Ill. Officers are J. Douglas Rollow, president and Frank H. Lancaster, secretary and treasurer.

The Ohio Pattern Works & Foundry Co., Cincinnati, O., states that due to the fact that its automotive department has outgrown its present quarters, it is segregating its automotive department from the foundry business and organizing a new corporation, the Ohio Parts Co., 3301 Colerain Ave., Cincinnati.

The Garford Motor Truck Co., Lima O., will establish a direct factory branch at Portland, Ore., in charge of L. R. Pearson for several years a merchandiser of the Garford products in that city. He will be assisted by Eddie Hurlle, also active in Portland truck circles. The branch will be located at 209 Union Ave., North.

The Fleer-Petty Auto Accessories Co. announces the removal of its establishment to new and larger quarters at 3221 Locust St., St. Louis, Mo.

The Automotive Fan & Bearing Co. has been organized at Jackson, Mich., by several prominent automobile men to manufacture automotive fans equipped with an internal high pressure oiling system and special bearings. A plant has been obtained and production equipment installed. Company executives are Harry Foster, Mort. DeWitt, T. B. Funk, E. F. Willet and Charles Hollerith.

The Trainor National Spring Co., is the new name of the National Spring Co., of New Castle, Ind., the change in name having been made for the purpose of identifying the name with the product, Trainor replacement springs. F. J. Trainor is president of the company.

Factory News

The A. C. Spark Plug Co., Flint, Mich., has awarded a contract for the construction of a 4-story reinforced concrete factory building, with a floor area of 54,840 sq. ft. to take care of increased production facilities made necessary by increasing demand for A. C. Spark Plugs.

The Erd Motors Co., Saginaw, Mich., has completed plans for re-financing and an issue of $350,000 of preferred stock will soon be forthcoming. B. G. Appleby is president and treasurer of the company.

The White Company, of Cleveland, has received an order from the City of New York for 100 2-ton power dumping trucks to be used in the service of the street cleaning department.

Kund & Eiben Mfg. Co., Pittsburgh, Pa., manufacturer of K & E auto creepers, is erecting a new plant at Bedford, Pa., where larger space and increased facilities will make possible additional business. The plant will be ready August 15.

The Pierce-Arrow Motor Car Co., reports that the truck side of its business is being developed in a more aggressive manner than ever before and that truck producing facilities will be extended as the truck business continues to advance. The first five months of 1923 were 107½ per cent better than the same period of production in 1922.

The Warner Elevator Mfg. Co., Cincinnati, has completed a large addition to its plant which gives a main shop length of 500 ft., 200 ft. in width, two stories and a basement.

The Continental Rubber Co., of New York is preparing to open its guayule rubber manufacturing plant at Marathon, Tex. It is said to be the only factory in the U. S. for the extraction of crude rubber.

Literature of the Trade

The Ohio State Automobile Association has recently issued a booklet containing the automobile laws of Ohio. Book is distributed at $1.00 a copy.

Petroleum in Industry. The Vacuum Oil Co. has printed in booklet form the excellent address of Edward Prizer, president of that company, delivered at the 11th annual meeting of the Chamber of Commerce of the United States in New York, May 9th.

The Manhattan Electrical Supply Co., Inc., 17 Park Pl., New York City, announces the publication of a new Manhattan Products Catalog No. 31.

Replacement Table—Corrected Monthly

Including Piston Ring Sizes, Carburetor Sizes, Hose Sizes, Fan Belt Sizes, Brake Lining Sizes and Truck Frame Dimensions

Note: Under Carburetor Inlet Diameter Will be Found Either the Size of Main Air Intake or the Gasoline Fuel Line

Fan Belt Type: V—V-Shape, F—Flat, R—Round

NAME, MODEL AND TONNAGE	ENGINE												BRAKE LINING								FRAME				
	Piston Rings		Carburetor			Upper Hose		Lower Hose		Fan Belt			Service				Emergency				Length			Width	
	No. per Cyl.	Width	Outlet Diameter	Inlet Diameter	Vertical or Horizontal	Length	Width	Length	Width	Length	Width	Type	Length	Width	Thickness	No. of Pieces	Length	Width	Thickness	No. of Pieces	Back of Driver's Seat	Driver's Seat to Center of Rear Axle	Over All	Over All	Clearance at Lowest Point of Chassis
Ace, Series A–1½	3	¼	1	1	V	7	1¾	8	1¼	40⅝	2	F	12	3¼	¼	4	12	3¼	¼	4	122½	76⅜	215¼	32	9
Ace, Series A–2	3	¼	1¼	1¼	V	6½	2	11	1¼	42⅝	2	F	13½	3½	¼	4	13½	3½	¼	4	Opt	85	241	32	9⅛
Ace 60–3	3	¼	1¼	1¼	V	10	2	15	1¼	42⅝	2	F	13½	3½	¼	4	13½	3½	¼	4	Opt	84½	241	.....	9½
Acme 20–1	3	¼	1	1	H	11	2	11	2	38¾	¾	V	11½	2½	¼	2	11½	2½	¼	2	110⅜	63⅜	194	34	11
Acme 30–1½	3	¼	1	1	V	11	2	11	2	38¾	¾	V	12	3	¼	2	12	3	¼	2	110⅜	63⅜	194	34	10½
Acme 40–2	4	¼	1	1	V	8	1½	11	1½	40	1½	F	12	3¼	¼	2	12	3¼	¼	2	123⅜	74⅜	208	34	9¾
Acme 40L–2	4	¼	1¼	1¼	V	11½	1½	12½	1½	39½	1½	F	12	3¼	¼	2	12	3¼	¼	2	123⅜	74⅜	214½	34	9¾
Acme 60–2½	4	¼	1¼	1¼	V	11½	1½	12½	1½	39½	1½	F	13	3½	¼	2	13	3½	¼	2	132⅜	79⅜	223½	34	10
Acme 60L–3	4	¼	1¼	1¼	V	11½	1½	12½	1½	41¾	1½	F	13	3½	¼	2	13	3½	¼	2	140‡‡	79⅜	235½	34	10
Acme K (Bus)	4	¼	1¼	1¼	V	11½	1½	12½	1½	41¾	1½	F	15½	3¾	¼	2	15½	3¾	¼	2	260¾	168⅜	312	41⅜	6
Acme 90–3½	4	¼	1¼	1¼	V	10	1½	12	1½	41¾	1½	F	15½	3¾	¼	2	15½	3¾	¼	2	150¼	95¼	243	36	10¾
Acme 90L–4	4	¼	1½	1½	V	10	1½	10	1½	40½	1¾	F	15½	3¾	¼	2	15½	3¾	¼	2	153¾	96¾	255	37	10¾
Acme 125–5	4	¼	1½	1½	V	10	1½	10	1½	40½	1¾	F	18	4	¼	2	18	4	¼	2	159¾	99¾	261	37	10
American La France 1R–¾	3	¼	1¼	1‡‡	H	10	1½	10	1½	45	1½	...	*	*	¼	2	48¾	2¾	¼	2	108	60	207⅛	.....	10
American La France 2R–2	3	¼	1¼	1‡‡	H	9	1½	9	1½	40¾	2	...	†	†	¼	2	17	3½	¼	4	156	98	252	.....	10
American La France 2R–2	3	¼	1¼	1‡‡	H	9	1½	9	1½	40¾	2	...	‡	‡	¼	2	17	3½	¼	4	132	81	231⅛	.....	10
American La France 3R–3½	3	¼	1¼	1‡‡	H	9	....	9	1	40¾	2	...	11¾	8	¼	2	21	4	¼	4	144	90	243⅞	.....	9
American La France 3R–3½	3	¼	1¼	1‡‡	H	9	1	9	1½	40¾	2	...	11¾	8	¼	2	21	4	¼	4	168	104	267⅞	.....	9
American La France 3R–3½	3	¼	1¼	1‡‡	H	9	1½	9	....	40¾	2	...	11¾	8	¼	2	21	4	¼	4	192	114	291⅞	.....	9
American La France 5R–5	3	¼	1‡‡	1‡‡	H	9	1½	9	1½	40¾	2	...	11¾	8	¼	2	21	4	¼	4	144	90	243⅞	.....	10
American La France 5R–5	3	¼	1‡‡	1‡‡	H	9	1½	9	1½	40¾	2	...	11¾	8	¼	2	21	4	¼	4	168	104	267⅞	.....	10
American La France 5R–5	3	¼	1‡‡	1‡‡	H	9	1½	9	1½	40¾	2	...	11¾	8	¼	2	21	4	¼	4	192	114	291⅞	.....	10
Armleder 21–1½	4	¼	1	¼	V	12	1¾	16½	1¼	31½	2	F	12	3¼	¼	4	12	3¼	¼	4	Opt	67¾	218	32	9¾
Armleder 40B–1½	4	¼	1¼	¼	V	9½	2	11½	1¼	33¼	2	F	12	3½	¼	4	12	3½	¼	4	Opt	74¼	217¾	32	9¾
Armleder 40C–1½	3	¼	1¼	¼	V	8½	1¼	11½	1¼	34	1¼	F	12	3½	¼	4	12	3½	¼	4	Opt	74¼	217¾	32	9¾
Armleder KWB–3½	4	¼	1¼	¼	V	12	2	16½	1¼	35¾	2	F	37	3	¼	1	16	3¾	¼	8	Opt	89‡‡	261½	36	8‡‡
Armleder KWC–3½	3	¼	1¼	¼	V	10	1½	16½	1¼	35⅝	2	F	37	3	¼	1	16	3¾	¼	8	Opt	89‡‡	261½	36	8‡‡
Armleder HWB–2½	4	¼	1¼	¼	V	9½	2	11½	1¼	33¼	2	F	13¼	3½	¼	4	13¼	3½	¼	4	Opt	74¼	217¾	32	10
Armleder HWC–2½	3	¼	1¼	¼	V	8½	1¼	11½	1¼	34	1¼	F	13¼	3½	¼	4	13¼	3½	¼	4	Opt	74¼	217¾	32	10
Atco B1½	4	¼	1	1	V	11	2	11	1¼	31½	2	F	25½	2½	¼	4	18	2½	¼	4	109¾	.....	.....	32	.....
Atco B1–1½	4	¼	1	1	V	11	2	11	1¼	31½	2	F	46	2½	¼	2	46	2½	¼	2	109¾	.....	.....	32	.....
Atco A–2½	4	¼	1¼	1¼	V	12	2	11	1¼	33¼	1¼	F	25½	2½	¼	4	18	2½	¼	4	124¼	.....	.....	33	.....
Atlas 22–1	3	¼	1	¼	V	10	1½	11	1	33½	1½	F	40	2	¼	2	22½	2¼	¼	1	84¾	.....	.....	33¾	.....
Atterbury 20R–1½	4	¼	1	⅜	....	8	1½	14	1½	38‡‡	1¼	F	11¼	3¼	¼	4	11¼	3¼	¼	4	122⅛	72⅞	211¾	34	9½
Atterbury 22C–2½	4	¼	1¼	⅜	....	10½	1½	16	1½	40½	1½	F	13¼	3½	¼	4	13¼	3½	¼	4	129¼	78¾	225	34	9⅞
Atterbury 22D–3½	4	¼	1¼	⅜	....	10½	1½	16	1½	40½	1½	F	15⅛	3¾	¼	4	15⅛	3¾	¼	4	142¾	93¼	242	37½	8¼
Atterbury 8E–5	3	¼	1½	⅝	....	14	2	20½	2	40	2	F	17¾	4	¼	4	17¾	4	¼	4	157⅞	80⅞	263	37½	10
Autocar XXI–F–1½	4	¼	1¼	.....	.....	3-4	1⅛	5	1⅛	.....	.....	...	16¼	2½	¼	4	13½	2½	¼	4	91	67	156	34	9⅛
Autocar XXI–G–1½	4	¼	1¼	.....	.....	3-4	1⅛	5	1⅛	.....	.....	...	16¼	2½	¼	4	13½	2½	¼	4	114	90	179	34	9½
Autocar XXVI–5	3	¼	1¼	.....	.....	3½	1½	3½	1½	49¼	2	F	25½	2¾	¼	4	25½	2¾	¼	4	140	80¾	223	34⅛	10
Autocar XXVI–5	3	¼	1¼	.....	.....	3½	1½	3½	1½	49¼	2	F	25½	2¾	¼	4	25½	2¾	¼	4	176	116¾	259	34⅛	10
Autocar XXVII–2	3	¼	1¼	.....	.....	3½	1½	3½	1½	47¼	2	F	22⅝	2	¼	4	22⅝	2	¼	4	131½	76	213	34⅛	10⅛
Autocar XXVII–2	3	¼	1¼	.....	.....	3½	1½	3½	1½	47¼	2	F	22⅝	2	¼	4	22⅝	2	¼	4	155½	100	237	34⅛	10⅛
Available H–1½	4	¼	2¼	1¼	....	11	1⅝	14	1⅝	40	2	...	48	2½	¼	2	36	2½	¼	2	120	80½	201¼	32	9
Available H2	4	¼	2¼	1¼	V	12	1⅝	14	1⅝	40	2	F	48	2½	¼	2	36	2½	¼	2	120	84½	212	32	9
Available H–2½	3	¼	2¼	1¼	....	11	1⅝	14	1⅝	40	2	...	13½	3½	¼	4	13½	3½	¼	4	144	85⅝	226⅞	32	9
Available H3½	4	¼	2½	1‡‡	V	12	1⅝	14	1⅝	42	2	F	16	3¾	¼	4	16	3¾	¼	4	168	106⅜	254⅞	36	9
Available H5	3	¼	2½	1‡‡	....	12	2	16	2	40	2	...	18	4	¼	4	18	4	¼	4	168	112⅝	263⅛	38	9
Avery 1	3	¼	....	1	....	10	2	6½	2	31¾	1½	F	19½	2	¼	4	18½	2	¼	4	85	49	169½	34	13
Bell M–1	4	¼	1	¼	V	10	2	10	1½	32	2	F	36	2½	¼	1	42	3	¼	1	110	.....	.....	34	.....
Bell E–1½	4	¼	1	¼	V	10	2	10	1½	32	2	F	39	2½	¼	1	48	3	¼	1	114	.....	.....	34	.....
Bell O–2½	4	¼	1¼	¼	V	10	2	10	1½	32	2	F	48	2½	¼	1	54	3	¼	1	126	.....	.....	34	.....
Belmont B–1	3	¼	1	1	V	10	2¼	12	2¼	33½	¾	F	36½	1½	¼	1	34½	1½	¼	1	85	50	165	34	11½
Belmont D–2	3	¼	1¼	1¼	V	10½	2¼	9	1¾	34	2	F	51	3¼	¼	1	47	2¼	¼	1	119⅝	87½	212⅝	34	11
Belmont F–3	3	¼	1¼	1¼	V	10¾	2¼	14	1¾	34	2	F	51	3¼	¼	1	47	2¼	¼	1	137½	88½	233½	34	11
Bessemer G–1	3	¼	1	¼	V	11½	2¼	10	2¼	42	⅝	V	46	2½	¼	2	44	2¼	¼	2	98¼	58½	182¾	34	.....
Bessemer H–2–1½	3	¼	1	¼	V	11½	2¼	10	2¼	43	⅝	V	16⅜	2	¼	8	16⅜	2	¼	8	116	76	203	34	.....
Bessemer J2–2½	3	¼	1¼	¼	V	12	1½	5	1⅞	36¼	1¼	F	18⅜	2¼	¼	8	18⅜	2¼	¼	8	142⅜	92¼	229	34	.....
Bessemer K2–4	3	¼	1¼	¼	V	11½	2¼	10	2¼	39⅜	1½	F	55	3½	¼	2	33	4½	¼	1	157½	108	249	38	.....
Bethlehem KN–1	3	¼	....	1	V	8¾	2¼	8	2¼	35½	1¼	F	49½	2¼	¼	1	20	2¼	¼	2	89¼	56¼	175	32⅛	10½
Bethlehem GN–2	3	¼	....	1¼	V	8½	2⅝	9½	2⅝	40⅝	1½	F	52	2½	¼	1	37	2½	¼	1	116¾	74	208¼	34½	9¼
Bethlehem HN–3	3	¼	....	1¼	V	8½	2⅝	9½	2⅝	40⅝	1½	F	61	2½	¼	1	47	2½	¼	1	134¾	81½	226¼	34½	8½
Brinton C–1½	3	¼	1¼	⅜	....	11	1¼	13	1¼	33	‡‡	F	39	2½	¼	1	38	2½	¼	1	118	.....	.....	.....	33
Brinton D–2½	3	¼	1¼	⅜	....	11	1¼	13	1¼	33	‡‡	F	13	3½	¼	2	13	3½	¼	2	135½	.....	.....	.....	33
Brockway S2–1½	3	¼	1	....	V	10½	2¼	5½	2¼	39	1¼	F	20	2	¼	4	20	2	¼	4	118	72	118½	32	.....
Brockway K4–2½	3	¼	1¼	....	V	6½	1¾	13	1¼	34	1¼	F	13	3½	¼	4	13	3½	¼	4	142	89½	123½	34	.....
Brockway R–2–3½	3	¼	1¼	....	V	9½	1¾	14	1¼	34	1½	F	15⅛	3¾	¼	4	15⅛	3¾	¼	4	176	102¾	175	36	.....
Brockway T–5	3	¼	1½	....	V	13	2	22	2	40⅝	2	F	17¾	4	¼	4	17¾	4	¼	4	176	104½	176	36	.....
Buffalo Tractor-Truck	4	¼	1¼	¼	V	7	1⅝	13	1⅝	41½	2	F	21	2¼	¼	4	21	2¼	¼	4	124	82½	224	34	9¾
Casco A–1	4	¼	1¼	¼	V	12	1¾	14½	1¼	34¾	1½	F	48½	2½	¼	1	48	2¼	¼	1	104	61	192¼	34	10
Case	3	¼	1¼	1‡‡	V	7	1½	6	1½	47⅜	2	...	25½	2½	¼	4	24¼	2¼	¼	4	106	59¼	210	31	13½
Chicago C–1½	4	....	1	1½	....	11	1½	15	1½	40	2	...	10	2½	¼	4	10	2	¼	4	145½	75¼	211¼	32	.....
Chicago C–2½	4	....	1¼	1¼	....	11	1½	15	1½	40	2	...	10	2½	¼	4	10	2	¼	4	157½	87¼	223½	32	.....
Chicago C–3½	4	....	1¼	1¼	....	11	1½	15	1½	46	2	...	12	3¼	¼	4	12	2¼	¼	4	170	84½	249	36¾	.....
Chicago D–5	4	....	1¼	1¼	....	11	1½	15	1½	46	2	...	12	3¼	¼	4	12	2¼	¼	4	170	84½	249	36¾	.....
Climber A–20	3	¼	1	1¼	H	17½	1½	17½	1½	32	1	F	16	2¼	¼	2	16	2⅛	¼	1	120	96	216	34	14
Clinton 1¼	4	¼	1	¼	H	7½	1¼	13	1¼	36⅜	2	F	11¾	2½	¼	4	11¾	2½	¼	4	112	73¾	207	34	10
Clinton 2	4	¼	1	¼	H	11	1¾	12	1¼	36⅜	2	F	11¾	3¼	¼	4	11¾	3¼	¼	4	131	81	233	33¼	9

* Disk Brake 10¼ O. D. 6½ I. D. † 12 O. D. 7½ I. D. ‡ 12 O. D. 7½ I. D.

Replacement Table—Continued

NAME, MODEL AND TONNAGE	ENGINE												BRAKE LINING							FRAME				
	Piston Rings		Carburetor			Upper Hose		Lower Hose		Fan Belt			Service				Emergency				Length			Width	
	No. per Cyl.	Width	Outlet Diameter	Inlet Diameter	Vertical or Horizontal	Length	Width	Length	Width	Length	Width	Type	Length	Width	Thickness	No. of Pieces	Length	Width	Thickness	No. of Pieces	Back of Driver's Seat	Driver's Seat to Center of Rear Axle	Over All	Over All	Clearance at Lowest Point of Chassis
Clinton 3	4	1/4	1 1/4	1/2	H	11	2	19	1 1/4	38 3/8	2	F	13 3/16	3 1/2	1/4	4	13 3/16	3 1/2	1/4	4	166	98	270 1/2	33 1/4	9 1/2
Clinton 4	4	1/4	1 1/4	1/2	H	11	2	19	1 1/4	38 3/8	2	F	15 5/8	3 3/4	1/4	4	15 5/8	3 3/4	1/4	4	163	105	270 1/2	38	8 1/2
Clinton 5	4	1/4	1 1/2	1/2	H	12	2	18	1 1/2	41	2		17 3/4	4	1/4	4	17 3/4	4	1/4	4	206 1/2	115	318	38	8
Clinton 5–7	4	1/4	1 1/2	1/2	H	12	2	18	1 1/2	41	2		17 3/4	4	1/4	4	17 3/4	4	1/4	4	130 1/2	91	242	38	10
Clydesdale 120B–5–6	3	1/4	1 11/16	1/2	V	9	2	18 1/2	2	46 1/2	2		18	4	1/4	4	18	4	1/4	4	131			38	
Clydesdale 90–3 1/2–4 1/2	3	1/2	1 5/8	1/2	V	9	1 1/2	14	1 1/2	42	1 1/2		16	3 3/4	1/4	4	16	3 3/4	1/4	4	143			38	
Clydesdale 65EX 2 1/2–3	3	1/2	1 5/8	1/2	V	9	1 1/2	14	1 1/2	42	1 1/2		13 1/4	3 1/2	1/4	4	13 1/4	3 1/2	1/4	4	132			33 1/4	
Clydesdale 65X–2 1/2–3	3	1/2	1 1/16	1/2	V	11	1 1/2	11	1 1/2	11	1 1/2	F	13 1/4	3 1/2	1/4	4	13 1/4	3 1/2	1/4	4	137			33 1/4	
Clydesdale 42–1 1/2–2	3	1/2	1 1/16	1/2	V	15	2	12	2	41	3/4	V	12	3 1/4	1/4	4	12	3 1/4	1/4	4	117			34	
Clydesdale 20–1–1 1/2	3	1/2	1 1/16	1/2	V	15	2	12	2	41	3/4	V	11 1/4	3	1/4	4	11 1/4	3	1/4	4	95			34	
Clydesdale 18–3/4–1 1/4	3	1/2	1 1/16	1/2	V	15	2	12	2	41	3/4	V	11 1/4	2 1/2	1/4	4	11 1/4	2 1/2	1/4	4	95			34	
Clydesdale 10–3/4–1 1/4	3	1/2	1 1/16	1/2	V	9	2	9	2	41	3/4	V	11 1/4	2 1/2	1/4	4	11 1/4	2 1/2	1/4	4	109			34	
Clydesdale 10A–1–3/4–1 1/4	3	1/2	1 1/16	1/2	V	9	2	9	2	41	3/4	V	11 1/4	2 1/2	1/4	4	11 1/4	2 1/2	1/4	4	109			34	
Commerce 9–1500	3	1/2	1	1/2	V	10	2	10	2	44	3/4	V	50	2	1/2	2	48 1/2	2	1/2	2	92 5/8	53 3/8	193	34	9
Commerce 14B–3000	4	1/2	1	1/2	V	10	2	9 1/2	1 1/2	39 3/4	3/4	F	11 1/16	3 3/4	1/4	4	11 1/16	3 3/4	1/4	4	117	75	210	34	8 3/4
Commerce 25B–5000	4	1/4	1 1/4	1/2	V	9 1/2	1 1/2	15 1/2	1 1/2	42	1 1/2		13	3 1/2	1/4	4	13	3 1/2	1/4	4	132	84	228 1/2	34	12 1/2
Concord A–2	4	1/4	1 1/4	1/2	H	11	2 3/8	9 1/2	1 1/2	34	2	F	12	3 1/4	1/4	4	12	3 1/4	1/4	4	108 1/4			32 1/4	
Concord AX–2	4	1/4	1 1/4	1/2	H	11	2 3/8	9 1/2	1 1/2	34	2	F	12	3 1/4	1/4	4	12	3 1/4	1/4	4	122 3/4			32 1/4	
Concord B–3	4	1/4	1 1/4	1/2	H	11	2 3/8	9 1/2	1 1/2	34	2	F	13 1/2	3 1/2	1/4	4	13 1/2	3 1/2	1/4	4	122 1/2			32 1/4	
Concord BX–3	4	1/4	1 1/4	1/2	H	11	2 3/8	9 1/2	1 1/2	34	2	F	13 1/2	3 1/2	1/4	4	13 1/2	3 1/2	1/4	4	155 5/8			32 1/4	
Corbitt S–3/4	3	1/2	1	....	....	8		14	2	38	5/8	V	19	2	1/2	2	19	2	1/2	2	105			34	
Corbitt D–1 1/2	3	1/2	1 1/4	....	....	8	2	14	2	38	5/8	V	45 1/4	2	1/4	1	45 1/4	2	1/4	1	120			34	
Corbitt C–2	3	1/2	1 1/4	1/2	....	14	1 1/4	13	1 1/4	36	1 1/4	F	51 1/2	2 1/4	1/4	1	51 1/2	2 1/4	1/4	1	138			35	
Corbitt B–2 1/2	3	1/2	1 1/4	1/2	....	14	1 1/4	13	1 1/4	36	1 1/4	F	51 1/2	2 1/4	1/4	1	51 1/2	2 1/4	1/4	1	138			35	
Corbitt AA–5	3	1/4	1 1/2	1/2	....	13	1 1/4	8	1 1/4	36	2	V	69 1/4	3	1/4	1	69 1/4	3	1/4	1	160			38	
Corbitt A–4	3	1/2	1 1/4	1/2	....	13	2	14	2	36	1 1/4	V	64	2 1/2	1/4	1	64	2 1/2	1/4	1	160			35	
Cyclone A–3000	3	1/16	1	1	V	16	2	16	2	32 1/2	1 1/4	F	21 1/4	2 1/2	1/2	4	19 3/4	2 1/4	1/2	4	113			34	
Day-Elder AN–1 1/2	3	1/2	1	1 1/4	V	8	1 11/16	....	1 1/4	....	1 1/2	F	.....	3	1/4	4	.....	3	1/4	4	108	35		.....	.....
Day-Elder BN–2	3	1/2	1	1 1/4	V	6	1 1/2	....	1 1/2	....	1 1/4	F	.....	3 1/4	1/4	4	.....	3 1/4	1/4	4	120	35		.....	.....
Day-Elder DN–2 1/2	3	1/2	1 1/4	1 1/2	V	7	1 1/2	....	1 1/2	....	1 1/2	F	.....	3 1/2	1/4	4	.....	3 1/2	1/4	4	125	35		.....	.....
Day-Elder CN–3	3	1/4	1 1/4	1 1/2	V	10 1/2	2	....	1 3/8	....	1 1/2	F	.....	3 1/2	1/4	4	.....	3 1/2	1/4	4	123	35		.....	.....
Day-Elder FN–4	3	1/2	1 1/2	1 3/4	V	6	1 1/2	....	1 1/2	....	1 1/2	F	.....	3 3/4	1/4	4	.....	3 3/4	1/4	4	148	35		.....	.....
Day-Elder EN–5–6	4	1/4	1 1/2	1 3/4	V	12	2	....	1 1/4	....	2	F	.....	4	1/4	4	.....	4	1/4	4	155	37		.....	.....
Defiance B–1 1/2	3	1/2	1	1	V	10	2	8	2	40 3/4	1 1/4	F	45	2 1/2	1/2	1	43 1/2	2 1/4	1/2	1	116	.....	.....	34	.....
Defiance 48–2	3	1/2	1	1	V	10	2	8	2	40 3/4	1 1/4	F	54 1/16	2 1/2	1/2	1	52 1/2	2 1/4	1/2	1	116	.....	.....	34	.....
Defiance D	3	1/2	1	1	V	10	2	8 1/2	1 1/4	40 3/4	1 1/4	F	45	2 1/2	1/2	1	43 1/2	2 1/4	1/2	1	120	.....	.....	34	.....
Defiance E	3	1/2	1	1	V	10	2	8 1/2	1 1/4	40 3/4	1 1/4	F	54 1/16	2 1/2	1/2	1	52 1/2	2 1/4	1/2	1	120	.....	.....	34	.....
Defiance EL	3	1/2	1	1	V	10	2	8 1/2	1 1/4	40 3/4	1 1/4	F	54 1/16	2 1/2	1/2	1	52 1/2	2 1/4	1/2	1	140	.....	.....	34	.....
Denby 31–1 1/4	3	1/2	1	1	....	9	2	12	2	41 1/2	3/4	V	8 1/2	4	1/4	2	52	2	1/2	2	97 5/8	.....	.....	34	.....
Denby 33–2	3	1/2	1	1	....	9	2	12	2	41 1/2	3/4	V	8 1/2	4	1/4	2	46 1/2	1 1/2	1/2	2	120	.....	.....	33 1/4	.....
Denby 35–3	3	1/2	1 1/4	1 1/4	....	8	1 5/8	14 1/4	1 1/4	34 1/4	1 1/4	F	8 1/2	4	1/4	2	51	3	1/2	2	143 3/4	.....	.....	33 1/4	.....
Denby 27–4	3	1/2	1 1/4	1 1/4	....	13	1 3/4	16 1/4	1 1/4	38 1/2	1 1/2	F	8 1/2	4	1/4	2	58	2 1/2	1/2	2	140	.....	.....	34	.....
Denby 210–5	3	1/2	1 1/4	1 1/4	....	13	1 3/4	16 1/4	1 1/4	38 1/2	1 1/2	F	8 1/2	4	1/4	2	89	2 1/4	1/2	2	140	.....	.....	34	.....
Dependable Dispatch A-1 1/4	4	1/2	1	1/2	V	14	2 1/4	15	1 1/4	37 1/2	2	F	53 1/4	2 1/4	1/2	1	38 1/4	2 1/4	1/2	1	108	.....	.....	33 1/2	.....
Dependable C–2	4	1/2	1	1/2	V	14	2 1/4	15	1 1/4	37 1/2	2	F	53 1/2	2 1/2	1/2	1	38 1/2	2 1/2	1/2	1	121	77	215	33	9 1/2
Dependable D–2 1/2	4	1/4	1 1/4	1/2	V	10	2 1/4	11 1/2	1 1/4	37 1/2	2	F	53 1/2	2 1/2	1/2	1	38 1/2	2 1/2	1/2	1	140	77	215	33	9 1/2
Dependable E–3	4	1/4	1 1/4	1/2	V	10	2 1/4	11 1/2	1 1/4	37 1/2	2	F	63	2 1/2	1/2	1	49	2 1/2	1/2	1	152	92	248	33	9 1/2
Dependable G–3 1/2	4	1/4	1 1/4	1/2	V	13	2	13	1 1/4	37 1/2	2	F	63	2 1/2	1/2	1	49	2 1/2	1/2	1	170	.....	.....	33	.....
Diamond T–O3–1	3	1/2	1	1 1/4	V	9	1 1/4	6	1 1/4	35	2	F	48	2 1/2	1/2	2	33	2 1/2	1/2	2	100	.....	.....	34	.....
Diamond T–T–1 1/2	3	1/2	1	1 1/4	V	9	1 1/4	6	1 1/4	35	2	F	11 1/2	3 1/4	1/4	4	11 1/2	3 1/2	1/4	4	Opt	.....	.....	34	.....
Diamond T–U2–2 1/2	3	1/2	1 1/4	1 1/4	V	9	1 1/4	8	1 1/4	35	2	F	13 1/4	3 1/2	1/4	4	13 1/4	3 1/2	1/4	4	Opt	.....	.....	34	.....
Diamond TK–3 1/2	3	1/4	1 1/4	1 1/2	V	10	1 1/2	10	1 1/2	35	2	F	15 5/8	3 3/4	1/4	4	15 5/8	3 3/4	1/4	4	Opt	.....	.....	37	.....
Diamond T–EL–5	3	1/4	1 1/4	1 1/2	V	10	1 1/2	10	1 1/2	35	2	F	18	4	1/4	4	17 11/16	4	1/4	4	Opt	.....	.....	37	.....
Diamond T–S–5	3	1/4	1 1/2	1 3/4	V	9	2	21	2	40 3/8	2	F	18	4	1/4	4	17 11/16	4	1/4	4	Opt	.....	.....	37	.....
Diehl A	3	....	1	1	....	....	....	....	....	....	....	....	28	2 1/2	1/2	2	27	2	1/2	2	90	48	174	.....	11
Dixon Model D	4	1/2	1	....	V	11	1 1/2	8	1 1/2	41	....	F	13	3 1/2	1/4	4	13	3 1/2	1/4	4	126	71	221 1/2	34 1/2	9 1/2
Dixon Model C	4	1/2	1 1/4	....	V	11	1 1/2	9	1 1/2	42	....	F	13	3 1/2	1/4	4	13	3 1/2	1/4	4	Opt	71	221 1/2	34 1/2	9 1/2
Dixon Model A	4	1/2	1 1/4	....	V	12	1 1/2	10	1 1/2	42	....		.....	.....	1/4	4	13	.....	1/4	4	Opt	71	221 1/2	36	9 1/2
Dodge Brothers–3/4	4	1/8	1 1/8	1/4	V	9	1 1/2	7 1/4	1 1/16	34 1/2	1	F	19 1/4	2 1/4	1/2	4	14 3/8	1 3/4	1/2	4	43 11/16	35 11/16	.....	38	10 1/4
D–Olt	3	1/2	1	1/2	H	18	2	18	2	36	1	F	54	3	1/2	2	42	3	1/2	2	240	68	166	34	11
Dorris K–4–2	3	1/4	1 1/4	1 1/4	V	2 1/4	1 1/2	6 1/4	1 1/4	42 7/8	2	F	13 1/2	3 1/2	1/4	4	13 1/2	3 1/2	1/4	4	142 3/4	96 1/2	233 1/2	34	9
Dorris K7–3 1/2	3	1/4	1 1/4	1 1/4	V	2 1/4	1 1/2	6 1/4	1 1/4	42 7/8	2	F	15 3/4	3 3/4	1/4	4	15 3/4	3 3/4	1/4	4	178 1/2	130 1/2	270 1/2	36	9
Dort 103 Series	3	1/8	1	1/4	H	6	2 1/4	15 1/8	2 1/4	32	1	F	35 1/2	1 3/4	1/2	2	36	1 3/4	1/2	2	50 3/4	.....	141 5/8	35 3/4	8 3/4
Double Drive B	4	1/4	1 1/2	1 11/16	V	12	2	19	1 1/2	34	2	F	8 5/8	4	1/4	2	18	4	1/4	..	120	84	216	36	9 3/4
Double Drive D	4	1/4	1 1/2	1 11/16	V	12	2	19	1 1/2	34	2	F	8 5/8	4	1/4	2	18	4	1/4	2	120	84	216	36	9 3/4
Douglas GW–1 1/2	3	....	1 1/4	1 1/4	....	....	....	....	....	....	....	....	45	2 1/2	1/2	2	44	2 1/4	1/2	2	118	.....	.....	31	.....
Douglas G–1 1/2	3	....	1 1/4	1/4	....	....	....	....	....	....	....	....	46	2 1/2	1/2	2	44	2 1/4	1/2	2	118	.....	.....	31	.....
Douglas H–2	3	....	1 1/4	1/4	....	....	....	....	....	....	....	....	55	2 1/2	1/2	2	52	2 1/4	1/2	2	118	.....	.....	31	.....
Douglas HW–2	3	....	1 1/4	1/4	....	....	....	....	....	....	....	....	54	2 1/2	1/2	2	42	2 1/4	1/2	2	118	.....	.....	31	.....
Douglas I–3	3	....	1 1/4	1/4	....	....	....	....	....	....	....	....	58	2 1/2	1/2	2	44	2 1/4	1/2	2	132	.....	.....	31	.....
Drake T–60	3	1/2	1 1/4	1 1/2	V	9	1 1/2	8	1 1/4	32	1 1/4	F	42 1/4	2 1/2	1/2	1	37	2 1/2	1/2	1	106	.....	.....	34	.....
Duplex E–3 1/2	3	1/4	1 1/4	1	....	....	....	....	....	....	....	....	9 1/2	2 1/2	1/4	2	5 1/2	2 1/2	1/4	2	126	.....	.....	39 3/8	.....
Duplex A	....	....	1 1/4	1 1/2	....	....	....	....	....	....	....	....	.....	2	....	4	.....	2	....	4	121	.....	.....	34	.....
Eagle 100–2	4	1/2	1 1/4	1	V	14	2	16	1 1/4	33 3/8	1 1/2	....	49 1/2	3	1/2	1	46	2	1/2	1	Opt	.....	.....	36	.....
Eugol 752–1	3	3/4	1 3/4	1/8	V	8	1 3/4	15 1/2	1 1/4	32 3/4	1 1/2	F	11	2 1/2	1/4	2	11	2 1/2	1/4	2	102	.....	.....	30	.....
Fageol 1 1/2–2	3	1/4	1 1/16	1 1/2	V	10	2 1/2	20	2 1/2	37 3/4	1 1/2	F	19 1/4	1 3/4	1/2	2	19 1/4	1 3/4	1/2	2	120	.....	.....	30	.....
Fageol 2 1/2–3	3	1/4	1 1/16	1 11/16	V	10	1 1/4	14 3/4	1 1/4	34 3/4	1 1/2	F	13 1/4	3 1/2	1/4	2	13 1/4	3 1/2	1/4	2	141	.....	.....	34	.....
Fageol 3 1/2–4	3	1/4	1 5/8	2	V	9	1 1/2	17 1/2	1 1/2	40 1/2	1 1/2		15 1/2	3 3/4	1/2	2	15 1/2	3 3/4	1/2	2	159 1/2	.....	.....	37 3/4	.....
Fageol 5–6	3	1/4	1 5/8	2	V	9	1 1/2	17 1/2	1 1/2	40 1/2	1 1/2	F	18	4	1/2	2	18	4	1/2	2	161 1/4	.....	.....	37 3/4	.....
Federal R–2–1	4	1/2	1	....	V	....	1 1/2	....	1 1/2	....	....	F	.....	.....	1/4	4	.....	.....	1/4	4	110	.....	.....	.....	.....
Federal S–21–1 1/2	4	1/2	1	....	V	....	1 1/2	....	1 1/2	....	....	F	.....	.....	1/4	4	.....	.....	1/4	4	118	.....	.....	.....	.....
Federal S–22–1 1/2	4	1/2	1	....	V	....	1 1/2	....	1 1/2	....	....	F	.....	.....	1/4	4	.....	.....	1/4	4	118	.....	.....	.....	.....
Federal U–2–2 1/2	4	1/4	1 1/4	....	V	....	1 1/4	....	1 1/2	....	....	F	.....	.....	1/4	4	.....	.....	1/4	4	134	.....	.....	.....	.....
Federal WL–4	4	1/4	1 1/4	....	V	....	1 1/2	....	1 1/2	....	....	F	.....	.....	1/4	4	.....	.....	1/4	4	154	.....	.....	.....	.....
Federal X2–5	4	1/4	1 1/2	....	V	....	1 3/8	....	1 1/2	....	....	F	.....	.....	1/4	4	.....	.....	1/4	4	154	.....	.....	.....	.....
Federal Light Duty	4	1/4	1 1/2	....	V	....	1 1/4	....	1 1/2	....	....	F	.....	.....	1/4	4	.....	.....	1/4	4	86	.....	.....	.....	.....
Federal Heavy Duty	4	1/4	1 1/4	....	V	....	1 1/4	....	1 1/2	....	....	F	.....	.....	1/4	4	.....	.....	1/4	4	99	.....	.....	.....	.....
Ford T–1	3	1/4	1.06	1 1/16	H	4	2	....	1 3/4	26 1/16	1 1/8	F	23 3/8	1 1/8	1/16	1	12	1 3/8	1/16	2	60	.....	123	23	9 3/4
Front Drive C–1 1/2	4	1/2	1	1 1/2	V	13 3/4	1 3/4	17	1 3/8	33	2	F	13	4	1/4	2	15	4	1/4	2	132	96	216	36	10 1/2
F. W. D. B–3	3	1/4	1 1/16	1 1/2	V	4	2	5	1 1/2	40	1 1/8	F	27	3 1/2	1/4	1	43	2 3/4	1/4	2	136	97	200	36	9 3/4
Garford 15–1	4	1/2	1	....	V	.....	.....	.....	.....	34	1 1/2	F	11	2 1/2	1/4	4	11	2 1/2	1/4	4	96	61	187	34	11
Garford 25B–1 1/2	3	1/2	1 1/4	....	H	.....	.....	.....	.....	37 1/16	1	F	11 3/4	3 1/4	1/4	4	11 3/4	3 1/4	1/4	4	108	70	200	34	9 1/2
Garford 70H–2 1/2	4	1/4	1 1/4	....	V	.....	.....	.....	.....	34 1/16	2	F	13 1/16	3 1/2	1/4	4	13 1/16	3 1/2	1/4	4	121	74	214	34	9 1/2
Garford 77D–4	4	1/4	1 1/4	....	V	.....	.....	.....	.....	39	2	F	15 5/8	3 3/4	1/4	4	15 5/8	3 3/4	1/4	4	144	88 1/2	246	36	9 1/2
Garford 68D–5	4	1/4	1 1/2	....	V	.....	.....	.....	.....	41 1/16	2	F	17 3/4	4	1/4	4	17 3/4	4	1/4	4	150	88 1/2	251	36	10
Garford 150–A–7 1/2	4	1/4	1 1/2	....	V	.....	.....	.....	.....	41 1/16	2	F	10 1/2	4	3/8	2	21 5/8	4	1/4	4	150	88 1/2	251	36	11
Gary F–1–1 1/2	3	1/16	1	3/8	V	.....	2	.....	.....	.....	1	F	11 1/2	3	1/4	4	11 1/2	3	1/4	4	97 3/8	.....	.....	.....	11 1/2

Replacement Table—Continued

NAME, MODEL AND TONNAGE	ENGINE												BRAKE LINING								FRAME				
	Piston Rings		Carburetor			Upper Hose		Lower Hose		Fan Belt			Service				Emergency				Length			Width	
	No. per Cyl.	Width	Outlet Diameter	Inlet Diameter	Vertical or Horizontal	Length	Width	Length	Width	Length	Width	Type	Length	Width	Thickness	No. of Pieces	Length	Width	Thickness	No. of Pieces	Back of Driver's Seat	Driver's Seat to Center of Rear Axle	Over All	Over All	Clearance at Lowest Point of Chassis
Gary I–2	4	1/4	1 1/4	3/4	V	13 1/2	2	12	1 1/4	32	1 1/4	F	12	3 1/4	1/4	4	12	3 1/4	1/4	4	120	72	214	34	10 3/4
Gary J–2 1/2	4	1/4	1 1/4	3/8	V	10	2	12	1 1/4	36	2	F	13 1/2	3 1/2	1/4	4	13 1/2	3 1/2	1/4	4	120	76	214	34	10
Gary K–3 1/2	4	1/4	1 1/4	3/8	V	13	2	16 1/2	1 1/4	36	2	F	15 3/4	3 3/4	1/4	4	15 3/4	3 3/4	1/4	4	148	86	247	36 3/4	10 3/4
Gary M–5	4	1/4	1 1/2	3/4	V	14	2	18	1 3/8	....	2	F	18 1/4	4	1/4	4	18 1/4	4	1/4	4	168	99	275	39	10 1/4
Giant 16–2 1/2	3	1/4	1 1/4	....	....	7 1/2	1 1/4	11 1/2	1 1/4	36 1/2	3/4	F	13 1/16	3 1/2	1/4	8	13 1/16	3 1/2	1/4	8	140 1/2	.....	.....	33	.....
Giant 17–3 1/2	3	1/4	1 1/2	....	....	9 1/2	1 3/4	12	1 1/4	36	3/4	V	15 5/16	3 3/4	1/4	8	15 5/16	3 3/4	1/4	8	183 1/2	.....	.....	36	.....
G.M.C. K–16	4	1/4	1 1/4	1 5/8	V	8 3/4	1 1/2	8 1/16	1 1/2	33 1/2	[illegible]	R	49 5/16	2 3/16	1/4	1	47	2 1/16	1/4	1	89	57	183 1/2	34	8 3/4
G.M.C. K–20	4	1/4	1 1/4	1 5/8	V	10	1 3/4	9 1/2	1 3/4	33 3/8	[illegible]	R	49 5/16	2 3/16	1/4	2	47	2 1/16	1/4	2	.....	.....	242 1/2	34	9 3/4
G.M.C. K–71	4	1/4	1 1/4	1 5/8	V	11 3/4	1 3/4	9 1/2	1 3/4	33 3/8	[illegible]	R	15 7/16	3 3/4	1/4	2	15 1/16	3 3/4	1/4	2	Opt	87 1/2	242 1/2	38	10 1/4
G.M.C. K–101	4	1/4	1 1/4	1 5/8	V	11 3/4	1 3/4	9 1/2	1 3/4	33 3/8	[illegible]	R	17 3/4	4	1/4	2	17 3/4	4	1/4	2	Opt	87 1/2	242 1/2	38	9 3/4
G.M.C. K–41	4	1/4	1 1/4	1 5/8	V	10	1 3/4	9 1/2	1 3/4	33 3/8	[illegible]	R	13	3 1/2	1/4	2	13	3 1/2	1/4	2	Opt	71	221 1/2	33	9 1/2
Gotfredson 20–1	4	1/4	1	1	V	9 1/4	1 3/4	10 1/2	1 1/4	32 1/8	1 3/4	F	11 1/2	2 1/2	1/4	4	11 1/2	2 1/2	1/4	4	88 1/16	56 11/16	182 1/2	69	11 1/2
Gotfredson 40–1 1/2–2	4	1/4	1	1	V	9 1/4	1 3/4	13 1/2	1 1/4	32 1/8	1 1/2	F	12	3 1/4	1/4	4	12	3 1/4	1/4	4	120 1/16	69 1/16	214 1/2	70	12
Gotfredson 50–2 1/2	4	1/4	1 1/4	1 1/4	V	11	2	16 1/4	1 1/4	41	1 3/4	F	13 1/2	3 1/2	1/4	4	13 1/2	3 1/2	1/4	4	127	81 1/16	222	75 1/16	9 1/2
Gotfredson 80–4	4	1/4	1 1/4	1 1/4	V	14	2	18	1 1/4	43	2	F	15 3/4	3 3/4	1/4	4	15 3/4	3 3/4	1/4	4	157	89 3/8	247 3/8	85 1/4	9 3/8
Gotfredson 100–5	4	1/4	1 1/2	1 1/2	V	14	2	19	1 1/2	42 5/8	2	F	18	4	1/4	4	18	4	1/4	4	155 3/4	89 3/4	261 1/4	89 7/8	9 7/8
Graham Bros.	3	1/4	1 1/8	1/4	V	9	1 1/2	7 1/4	1 1/4	34 1/2	1	F	50	2 1/2	1/4	2	20	1 1/2	1/4	4	98	58	194 1/4	33 1/8	10 1/4
Gramm-Pioneer 10 Speed–1	3	1/4	1	1 1/2	V	12	2 1/4	14 1/2	2 1/4	29	1	F	48	2	1/4	2	26	2	1/4	1	97	54	180	30 1/8	.....
Gramm-Pioneer 15–1 1/2–2	3	1/4	1	1 1/2	V	10 1/4	2	6	2	39	1 1/4	F	48 1/2	2	1/4	2	45 7/16	1 1/2	1/4	2	120	74	205 11/16	32	.....
Gramm-Pioneer 65–1 1/2–2	3	1/4	1	1 1/2	V	10 1/4	2	6	2	39	1 1/4	F	19 3/4	1 3/4	1/4	4	19 3/4	1 3/4	1/4	4	120	74	205 11/16	32	.....
Gramm-Pioneer 125	3	1/4	1 1/4	1 1/2	V	4 1/2	1 1/2	12	1 1/2	32	2	F	8	5	1/4	2	45	2	1/4	4	126	77 3/4	214	32	.....
Gramm-Pioneer 30–3	3	1/4	1 1/4	1 1/2	V	11	1 1/2	9	1 1/2	33 3/4	2	F	22 3/4	2 1/4	1/4	4	22 3/4	2 1/4	1/4	4	129 3/4	81 3/4	226 3/4	36	.....
Gramm-Pioneer 75P–3 1/2	3	1/4	1 1/4	1 1/2	V	11	1 1/2	9	1 1/2	33 3/4	2	F	22 3/4	2 1/4	1/4	4	22 3/4	2 1/4	1/4	4	129 3/4	.....	.....	36	.....
Gramm-Pioneer 40–4	3	1/4	1 1/4	1 1/2	V	11	1 1/2	9	1 1/2	33 3/4	2	F	28 3/4	2 3/4	1/4	4	28 3/4	2 3/4	1/4	4	144	87 3/4	240 3/4	36	.....
Gramm-Pioneer 50–5–6	3	1/4	1 1/2	1 3/4	V	23 1/4	2	13 3/4	1 7/8	40 3/4	2	F	32 11/16	2 3/4	1/4	4	32 11/16	2 3/4	1/4	4	132	97	263 1/2	36	.....
G. W. W.	3	1/4	1 1/4	1 3/4	V	12	1 3/4	11	1 3/4	37	2	F	49	2 1/2	1/4	2	47	1 1/2	1/16	2	89	72	192	32	11 1/2
Hall 2-Worm–2 1/2	3	1/16	....	....	....	8	1 1/4	12 1/2	1 1/4	32	1 1/4	F	11 1/2	3	1/4	4	11 1/2	3	1/4	4	144	.....	.....	38	.....
Hall 3 1/2-Worm	3	1/16	....	....	....	12 1/2	1 3/4	15 1/2	1 1/4	38 1/8	1 1/2	F	15	3 3/4	1/4	4	15	3 3/4	1/4	4	180	.....	.....	39	.....
Hall 5-Worm	3	1/16	....	....	....	12 1/2	1 3/4	15 1/2	1 1/4	38 1/8	1 1/2	F	18	4	1/4	4	18	4	1/4	4	144	.....	.....	39	.....
Hall 7-Chain	3	1/16	....	....	....	12 1/2	1 3/4	15 1/2	1 1/4	38 1/8	1 1/2	F	18	4	1/4	4	18	4	1/4	4	144	.....	.....	39	.....
Harvey WOA–2	4	1/4	1 1/4	2	V	11	2	14	1 1/4	35 5/8	2	F	45	2	1/4	2	45	2	1/4	2	139	87	242 1/4	32	10
Harvey WFB–2 1/2	4	1/4	1 1/4	2	V	11	2	14	1 1/4	35 5/8	2	F	50	2 1/4	1/4	2	50	2 1/4	1/4	2	139	87	242 1/4	32	10
Harvey WHB–3 1/2	4	1/4	1 1/2	2	V	12	2	14	1 1/4	35 5/8	2	F	56 1/2	2 1/2	1/4	2	56 1/2	2 1/2	1/4	2	153 3/4	85 3/4	260 7/8	35	9
Harvey WFT–6	4	1/4	1 1/4	2	V	11	2	14	1 1/4	35 5/8	2	F	50	2 1/4	1/4	2	50	2 1/4	1/4	2	88	52	189 1/16	32	10
Harvey WHT–10	4	1/4	1 1/2	2	V	12	2	14	1 1/4	35 5/8	2	F	56 1/2	2 1/2	1/4	2	56 1/2	2 1/2	1/4	2	93	52 1/2	191 1/8	35	9
Hawkeye O	4	1/16	....	1	V	12	2	9	1 1/4	....	1 1/2	F	....	....	....	....	....	....	....	....	....	....	....	....	....
Hawkeye K	4	1/16	....	1	V	12	2	9	1 1/4	....	2	F	....	....	....	....	....	....	....	....	....	....	....	....	....
Hawkeye M	4	1/4	....	1 1/4	V	12	2 1/4	9	1 1/2	....	2	F	....	....	....	....	....	....	....	....	....	....	....	....	....
Hawkeye N	4	1/4	....	1 1/4	V	14	2 1/2	12	1 1/2	....	2 1/2	F	....	....	....	....	....	....	....	....	....	....	....	....	....
Hendrickson N–2 1/2	3	1/4	1 1/4	1/16	....	....	....	....	....	....	....	....	12	3 1/2	1/16	4	12	3 1/2	1/16	4	Opt	.....	.....	32 1/2	.....
Hendrickson M–3 1/2	3	1/4	1 1/4	1/16	....	....	....	....	....	....	....	....	16	3 3/4	1/16	4	16	3 3/4	1/16	4	Opt	.....	.....	36	.....
Hendrickson K–5	3	1/4	1 1/2	1/16	....	....	....	....	....	....	....	....	18	4	1/4	4	18	4	1/4	4	Opt	.....	.....	38	.....
Hurlburt A1 1/2–2	3	....	1 1/4	1	....	....	....	....	....	....	....	....	22	2	1/4	2	22	2	1/4	2	132	.....	.....	35 1/2	.....
Hurlburt B2 1/2	3	1/16	1 1/4	1	....	....	....	....	....	....	....	....	24	2 1/2	1/4	2	23	2 1/2	1/4	2	154	.....	.....	34	.....
Hurlburt C3 1/2–4	3	1/4	1 1/2	1 1/4	....	....	....	....	....	....	....	....	26	3	1/4	2	25	3	1/4	2	144 1/2	.....	.....	34	.....
Hurlburt D5–5 1/2	3	1/4	1 1/2	1 1/4	....	....	....	....	....	....	....	....	28	3	1/4	2	27	3	1/4	2	144 1/2	.....	.....	34	.....
Indiana 12–1 1/2	3	1/4	1	....	....	17	1 1/4	14	1 1/4	38 1/2	1	F	17 1/2	2	1/16	4	17 1/2	2	1/16	4	108	98 1/16	189 5/8	32	10 1/2
Indiana 20–2	3	1/4	1 1/4	....	....	6	1 1/4	13	1 1/4	26 5/8	1 1/2	F	44	2	1/4	2	44	2	1/4	2	126	126	226 3/4	33	10 1/4
Indiana 25–2 1/2	3	1/4	1 1/4	....	....	6	1 1/4	13	1 1/4	26 5/8	1 1/2	F	51	2 1/4	1/4	2	51	2 1/4	1/4	2	138	138	238 3/4	33	9 1/4
Indiana 35–3 1/2	3	1/4	1 1/4	....	....	6	1 1/4	13	1 1/4	26 5/8	1 1/2	F	56	2 1/2	1/4	2	56	2 1/2	1/4	2	144	144	244 1/8	34 1/2	8 1/4
Indiana 51–5	3	1/4	1 1/2	....	....	10	1 1/2	17 1/4	1 1/2	40 1/2	1 3/4	F	68	3	1/4	2	68	3	1/4	2	156	156 1/4	260	37 1/2	10 1/2
Inter'l S—2000 lbs.–Sp. Tr.	3	1/4	1 1/4	1 1/4	V	9 3/4	2 1/4	17 3/4	2 1/4	30 1/4	1	F	38	2	1/4	2	36	2	1/4	2	88	.....	.....	34	.....
International 21–2000 lbs.	3	1/4	1 1/4	1 3/4	V	6	1 1/2	3 1/2	1 1/8	38 1/8	1 1/8	F	43 3/4	2 1/4	1/4	2	43 3/4	2 1/4	1/4	2	76	.....	.....	34	.....
International 31–3000 lbs.	3	1/4	1 1/4	1 3/4	V	6	1 1/2	3 1/2	1 1/8	38 1/8	1 1/8	F	43 3/4	2 1/4	1/4	2	43 3/4	2 1/4	1/4	2	106 1/2	.....	.....	34	.....
International 41–4000 lbs.	3	1/4	1 1/4	1 3/4	V	6	1 1/2	3 1/2	1 1/8	38 1/8	1 1/8	F	50 5/8	2 1/4	1/4	2	50 5/8	2 1/4	1/4	2	111 1/16	.....	.....	32 1/4	.....
International 52–Bus	4	1/4	1 1/4	1 3/4	V	9	2 1/4	14 1/2	2	.....	.....	...	10 5/8	2 1/4	1/4	4	50 5/8	3	1/4	2	216	.....	.....	34	.....
International 61–6000 lbs.	4	1/4	1 1/4	1 3/4	V	9	2 1/4	14 1/2	2	.....	.....	...	50 5/8	2 1/4	1/4	2	50 5/8	2 1/4	1/4	2	118 11/16	.....	.....	34	.....
International 62 Tractor Tr.	4	1/4	1 1/4	1 3/4	V	9	2 1/4	14 1/2	2	.....	.....	...	50 5/8	2 1/4	1/4	2	50 5/8	2 1/4	1/4	2	.....	.....	.....	34	.....
International 101–10,000	4	1/4	1 1/4	1 3/4	V	9	2 1/4	14 1/2	2	.....	.....	...	73 1/16	2 1/2	1/16	2	73 1/16	2 1/2	1/16	2	147 5/16	.....	.....	34	.....
International 102 TractorTr	4	1/4	1 1/4	1 3/4	V	9	2 1/4	14 1/2	2	.....	.....	...	73 1/16	2 1/2	1/16	2	73 1/16	2 1/2	1/16	2	.....	.....	.....	34	.....
Jackson B–3 1/2	3	1/16	1 1/4	1 1/2	V	11	....	....	....	32 1/2	1 1/4	F	58 1/2	3 1/2	1/4	2	.....	.....	.....	...	150	.....	.....	36	.....
Kalamazoo G–1	3	1/4	2 1/16	1 1/16	....	15 1/2	1 1/2	8	1 1/2	40	1 1/2	F	50	2 1/2	1/16	1	34	2 1/2	1/16	1	120	77 1/16	212	32 1/2	9
Kalamazoo LG	3	1/4	2 1/16	1 1/16	....	6	1 1/2	16	1 1/4	39	1 1/2	F	50	2 1/2	1/16	1	34	2 1/2	1/16	1	120	77 1/16	212	32 1/2	10
Kalamazoo NH	3	1/4	2 1/16	1 1/16	....	20	1 3/4	19 1/2	1 1/2	42	2	F	52	2 1/4	1/4	1	52	2 1/4	1/4	1	144	88 11/16	241	33	10
Kalamazoo HD	3	1/4	2 1/16	1 1/16	....	20	1 3/4	19 1/2	1 1/2	42	2	F	52	2 1/4	1/4	1	52	2 1/4	1/4	1	120	88 11/16	241	33	10
Kalamazoo SK	3	1/4	2 1/16	1 1/16	....	20	1 3/4	19 1/2	1 1/2	42	2	F	57	2 1/2	1/4	1	57	2 1/2	1/4	1	152	88 11/16	247	36	9
Kalamazoo OK	3	1/4	2 1/16	1 1/16	....	20	1 3/4	19 1/2	1 1/2	42	2	F	68	3	1/4	1	68	3	1/4	2	152	88 11/16	247	36	10 1/2
Kearns H–1	3	1/16	1	....	H	16	2	16	2	33	1	F	42	2	1/16	1	21	2	1/16	2	90	.....	.....	34	.....
Kearns N–1 1/2	3	1/16	1	....	H	18	2	18	2	33	1	F	45	2 1/4	1/16	1	22	2 1/4	1/16	2	120	.....	.....	34	.....
Kelly-Springfield K34–1 1/2	4	1/16	1 1/16	1 1/2	V	7	1 1/16	13	1 1/16	54 1/2	1	V	17 3/16	1 1/16	1/16	4	17 3/16	1 1/16	1/16	4	138	.....	.....	34	.....
Kelly-Springfield K35–2 1/2	4	1/16	1 1/16	1 1/2	V	7	1 1/16	13	1 1/16	55 1/2	1	V	16 3/4	1 1/16	1/16	4	16 3/4	1 1/16	1/16	4	138	.....	.....	34	.....
Kelly-Springfield K38–2 1/2	4	1/16	1 1/16	1 1/2	V	7	1 1/16	13	1 1/16	55 1/2	1	V	17 3/16	1 1/16	1/16	4	17 3/16	1 1/16	1/16	4	138	.....	.....	34	.....
Kelly–Springfield K–39–2 1/2	4	1/16	1 1/16	1 11/16	V	12 1/4	1 1/2	25 1/16	1 1/2	65 5/8	1	F	3 1/16	4 1/2	1/4	12	48	2 1/2	1/16	2	141	.....	.....	34	.....
Kelly-Springfield K40-3 1/2	4	1/4	1 1/16	1 11/16	V	5 1/16	1 5/8	24	1 1/2	63 5/8	1	V	21	2 7/8	1/4	4	21	2 3/8	1/16	4	145	.....	.....	38	.....
Kelly-Springf'd K41–3 1/2–5.	4	1/4	1 1/16	1 11/16	V	5 1/16	1 5/8	24	1 1/2	60 5/8	1	V	3 1/16	4 1/2	1/4	12	58	2 1/2	1/16	2	144	.....	.....	36	.....
Kelly-Springfield K42–3 1/2	4	1/4	1 1/16	1 11/16	V	5 1/16	1 5/8	24	1 1/2	60 5/8	1	V	27 1/2	2 3/4	1/4	4	27 1/2	2 3/4	1/4	4	144	.....	.....	36	.....
Kelly-Springfield K50–5	4	1/4	1 1/16	1 11/16	V	5 1/16	1 5/8	24	1 1/2	63 5/8	1	V	21	2 7/8	1/4	4	21	2 3/8	1/16	4	145	.....	.....	38	.....
Kelly-Springfield K60–6	4	1/4	1 1/16	1 11/16	V	5 1/16	1 5/8	24	1 1/2	63 5/8	1	V	21	2 7/8	1/4	4	21	2 3/8	1/16	4	145	.....	.....	38	.....
Kelly-Sprinf'd K61–5 to 7	4	1/4	1 1/16	1 11/16	V	5 1/16	1 5/8	24	1 1/2	60 5/8	1	V	3 1/16	4 1/2	1/4	12	58	2 1/2	1/16	2	142	.....	.....	36	.....
Kenworth KS–2 1/2	4	1/4	1 1/4	1 1/4	H	12	2	14	1 1/4	36	2	...	20	2 1/4	1/4	4	20	2 1/4	1/4	4	133	.....	.....	34	.....
Kenworth M–1 1/2	4	1/4	1 1/4	1 1/4	H	12	2	14	1 1/4	36	2	...	46	2	1/4	2	46	2	1/4	2	114	.....	.....	32	.....
Kenworth L–3	4	1/4	1 1/4	1 1/4	H	13 1/2	2	16	1 1/4	36	2	...	56	2 1/2	1/4	2	56	2 1/2	1/4	2	144	.....	.....	36 1/2	.....
Keystone 40–2	3	1/4	1	1/16	V	8	2 1/2	8	2 1/2	38	1	F	50 1/2	3	1/16	1	46 3/4	2	1/16	1	124	80	214	33	12
Kissel 1 Ton	3	1/16	....	1 1/4	....	12 1/4	1 1/4	10	1 1/2	46 3/4	2	F	11	3	1/4	4	11	3	1/4	4	102	.....	.....	34	.....
Kissel-Utility 1 1/2	3	1/16	....	1 1/4	....	12 1/4	1 1/4	10	1 1/2	46 3/4	2	F	19	2	1/4	4	19	2	1/4	4	120	.....	.....	34	.....
Kissel-Freighter 2	3	1/16	....	1 1/4	....	12 1/4	1 1/4	10	1 1/2	49	2	F	14	3 1/2	1/4	4	14	3 1/2	1/4	4	144	.....	.....	34	.....
Kissel-Heavy-Duty–4	3	1/16	....	1 1/4	....	13 3/4	1 1/4	10	1 1/2	52 1/4	2	F	56	2 1/2	1/16	2	56	2 1/2	1/16	2	156	.....	.....	36	.....
Kleiber 1	3	1/16	1 1/4	1 1/4	....	13	1 1/2	16	1 1/4	36	3/4	...	12	3 1/4	1/4	4	12	3 1/4	1/4	4	120	.....	.....	34	.....
Kleiber 1 1/2	3	1/16	1 1/4	1 1/4	....	13	1 1/2	16	1 1/4	38	1 1/4	...	45	3 1/4	1/4	2	12	3 1/4	1/4	2	132	.....	.....	34	.....
Kleiber 2	3	1/16	1 1/4	1 1/4	....	13	1 1/2	16	1 1/4	40	1 1/4	...	13 1/2	3 1/2	1/4	4	13 1/2	3 1/2	1/4	4	144	.....	.....	34	.....
Kleiber 2 1/2	3	1/16	1 1/4	1 1/4	....	13	1 3/4	16	1 1/4	40	1 1/4	...	14	3 1/4	1/4	2	13 1/2	3 1/2	1/4	2	150	.....	.....	34	.....
Kleiber 3 1/2	3	1/16	1 1/4	1 1/4	....	13	1 3/4	16	1 1/4	40	1 1/4	...	16	3 3/4	1/4	4	16	3 3/4	1/4	4	156	.....	.....	38	.....
Kleiber 5	4	1/4	1 1/2	1 1/4	....	13	1 3/4	16	1 1/4	43	1 1/4	...	18	4	1/4	4	18	4	1/4	4	168	.....	.....	38	.....
Lange F	4	1/4	1 1/16	1 5/8	V	6	1 1/2	15 1/2	1 1/2	45	1 1/2	F	15 3/4	3 3/4	1/4	4	15 3/4	3 3/4	1/4	4	135	84	212 1/2	37	14
Lange E–2 1/2	3	1/4	1	1 5/8	V	9	1 1/2	15 1/2	1 1/2	42	1 1/2	F	18	3 1/2	1/4	4	18	3 1/2	1/4	4	138	118 1/16	207 11/16	33	10
Larrabee X2–1–1 1/4 Ton	3	1/16	1 1/4	1 1/4	V	6	1 1/4	14	1 1/4	34	1 1/4	F	48	2	1/16	2	48	2	1/16	2	108	59	205	34	11

Replacement Table—Continued

NAME, MODEL AND TONNAGE	ENGINE												BRAKE LINING								FRAME				
	Piston Rings		Carburetor			Upper Hose		Lower Hose		Fan Belt			Service				Emergency				Length			Width	
	No. per Cyl.	Width	Outlet Diameter	Inlet Diameter	Vertical or Horizontal	Length	Width	Length	Width	Length	Width	Type	Length	Width	Thickness	No. of Pieces	Length	Width	Thickness	No. of Pieces	Back of Driver's Seat	Driver's Seat to Center of Rear Axle	Over All	Over All	Clearance at Lowest Point of Chassis
Larrabee J4–1½–2¼ Ton..	4	¼	1	1½	V	6½	1¼	10	1½	41	1¼	F	24	2	¼	4	24	2	¼	4	108	67½	199	34	10½
Larrabee K4–2½–3½ Ton.	4	¼	1¼	1¾	V	6	1½	11	1½	48	1½	F	27	2¼	¼	4	27	2¼	¼	4	Opt	77	219	34	9¾
Larrabee L4–3½–4½ Ton..	4	¼	1½	1¾	V	6	1½	11	1½	48	1½	F	60	2½	¼	2	60	2½	¼	2	Opt	81	224	36	9
Larrabee W–5–7	4	¼	1½	2¼		8½	2	17½	2	44½	2		72	3	¼	2	72	3	½	2	152	.....	.....	36	.....
Luedinghaus K2	3	¼	1¼	1⅛	....	9	1¼	5	1¼	.....	1½	F	53.4	2½	¼	2	38½	2½	¼	2	120	.....	.....	34	.....
Luedinghaus K2–LS	3	¼	1¼	1⅛	....	9	1¼	5	1¼	.....	1½	F	53.4	2½	¼	2	38½	2½	¼	2	145½	.....	.....	34	.....
Maccar L2	4	¼	1¼	1⅝	V	11¼	1½	17	1½	41½	1½	F	11⅝	3¼	¼	4	11⅝	3¼	¼	4	127¾	76¼	221½	34	10⅝
Maccar HA	4	¼	1¼	1⅝	V	11¼	1½	17	1½	41½	1½	F	13	3½	¼	4	13	3½	¼	4	141¾	81¾	242	34	10
Maccar H 2	4	¼	1¼	1⅝	V	9½	1½	15½	1½	41½	1½	F	13	3½	¼	4	13	3½	¼	4	139¾	79¾	242	34	10
Maccar M–3	4	¼	1¼	1⅝	V	11¼	1½	15½	1½	41½	1½	F	14¾	3¾	¼	4	14¾	3¾	¼	4	153¾	91¾	256	34	8¾
Maccar G	4	¼	1½	1⅞	V	10½	2	20½	2	40¾	2		18	4	¼	2	18	4	¼	4	163⅞	99⅞	270	37½	10
MacDonald O–5	4	¼	1	....	V	9	1¾	10	1⅜	33	1½		31½	2½	¼	2	18½	2½	¼	2	Opt	.....	.....	.....	.....
MacDonald A–7	4	¼	1¼	....	V	12	2	21	1¼	35	2		70	3	¼	2	34	3	¼	2	176	.....	.....	.....	.....
MacDonald AB–7½	4	¼	1¼	....	V	12¼	2	8	1¼	34¼	2		33½	3	¼	2	18½	3	¼	2	Opt	.....	.....	33¼	.....
Mack AB–1½, 2, 2½–T.–Ch	3	¼	1¼	1½	V	7¼	1½	5⅜	1¼	36⅝	1¼	F	11⅝	4	¼	4	16½	2½	¼	4	Opt	.....	.....	33¼	.....
Mack Dual R'd'n–1½, 2, 2½	3	¼	1¼	1½	V	7¼	1½	5⅜	1¼	36⅝	1¼	F	11⅝	4	¼	4	16½	2½	¼	4	77	.....	.....	33½	.....
Mack AB–Tractor–5	3	¼	1¼	1½	V	7¼	1½	5⅜	1¼	36⅝	1¼	F	11⅝	4	¼	4	20½	3½	¼	4	Opt	.....	.....	37½	.....
Mack AC–3½, 5, 6½, 7½..	3	¼	1½	1½	V	5¾	2	3¼	2	.....	.....		16⅜	3	¼	4	20½	3½	¼	4	87	.....	.....	37½	.....
Mack AC–Trac.–7,10,13,15	3	¼	1½	1½	V	5¾	2	3¼	2	.....	.....		16⅜	3	¼	4	40⅝	2¾	¼	4	85	56	175	30	10
Mason Road King	3	¼	1⅛	....	V	11⅝	2	14½	1½	.....	1½	F	42	2¾	¼	2	12	3¼	¼	2	Opt	.....	.....	34½	.....
Master 22–1½	4	¼	1¼	1⅛	V	13½	2	12½	1¼	30½	1	F	12	3¼	¼	2	13¼	3½	¼	2	117⅜	.....	.....	34	.....
Master 41–2½	4	¼	1¼	1⅛	V	13½	2	12½	1¼	31	1¼	F	13¼	4	¼	2	13¼	3½	¼	2	147¾	.....	.....	36¾	.....
Master 51–3½	4	¼	1¼	1⅛	V	13½	2	15	1¼	35	2		16	3¾	¼	2	16	3¾	¼	2	162⅞	.....	.....	36¾	.....
Master 61–5	4	¼	1½	1⅛	V	13½	2	15	1½	35	2		13¼	4	¼	2	18	4	¼	2	162⅞	.....	.....	39	.....
Master 64–5–6	4	¼	1½	1⅛	V	13½	2	15	1½	37	2	F	13¼	4	¼	2	18	4	¼	2	102	.....	.....	36	.....
Maxwell 1½	3	⅛	1	1	V	7¾	2⅛	3½	2⅛	36½	⅝		31	1½	¼	4	19¾	1⅜	¼	1	102	.....	.....	33	.....
Menominee Hurryton–1	3	¼	1¼	1¾	....	6	1½	12	1¼	40	1¼	F	11	2½	¼	4	11	2½	¼	4	122	.....	.....	32	.....
Menominee H–1½	3	¼	1¼	1¾	....	.....	.....	.....	.....	.....	.....		13½	3½	¼	8	.....	.....	.....	.....	146	.....	.....	32	.....
Menominee D–2	3	¼	1¼	1¾	....	3	1¾	3	1½	37¾	2	F	13½	3½	¼	8	42½	2½	⅞	2	102¾	.....	.....	32	.....
Menominee HT–1¼	3	¼	1¼	1¾	....	9¼	1¾	10½	1½	33¾	1¼	F	47	2½	¼	2	33¼	2½	¼	2	149	.....	.....	38	.....
Menominee RX–5	3	¼	1	1½	....	3	1¾	3	1¾	40¾	2		69	3½	¼	2	52	2½	¼	2	149	.....	.....	36	.....
Menominee G–3½	3	¼	1½	2	....	3	1¾	3	1¾	37¾	2		15⅝	3¾	¼	2	15⅝	3¾	¼	2	108	56	208⅜	34	.....
Moreland RR	3	¼	1	1¼	....	8	1½	11¼	1½	34	1¾		49	2½	¼	4	46	2½	¼	4	108	56	208⅜	34	.....
Moreland BX–1½	3	¼	1	1¼	V	8	1½	11¼	1½	34	1¾		12	3¼	¼	4	12	3¼	¼	4	132	79½	226¼	34	.....
Moreland EX–2	3	¼	1¼	1½	V	9	1½	14	1½	42	1¾		12	3½	¼	4	12	3½	¼	4	174	101¼	253	34	.....
Moreland AX–3	3	¼	1¼	1½	V	9	1½	13	1½	42	1¾		13½	3½	¼	4	13½	3½	¼	4	192	115¼	271	38	.....
Moreland RX–5	4	¼	1½	1¾	V	8	1½	14½	1½	42	2	F	15½	3¾	¼	4	15½	3¾	¼	4					
Napoleon 9–1	3	¼	1	....	H	6½	2¼	14	2¼	39	1	F	21	4	¼	1	30	2½	¼	1	100¾	60	193	35¾	10
Napoleon 11–1½	3	¼	1	....	H	6½	2¼	14	2¼	39	1	F	21	4	¼	1	30	2½	¼	1	100¾	.....	.....	35¾	.....
Nash 2018–1–1½	4	¼	1¼	1¼	....	3	1½	.....	.....	36	1	F	49½	2	¼	2	20	2½	¼	1	104½	61	193	30½	9¾
Nash 3018–2–2½	4	¼	1¼	1¼	....	3	1½	.....	.....	44	2	F	50⅝	3	¼	2	20	2½	¼	1	118¼	65	207	31⅝	9¾
Nash 4017–2–2½	4	¼	1¼	1¼	....	7	1½	.....	.....	44	2	F	49¼	2½	¼	2	25	2½	¼	1	117⅛	85½	202½	38⅛	14¾
Nash 3018–2–2½	4	¼	1¼	1¼	....	7	1½	.....	.....	44	2	F	49¼	2½	¼	2	25	2½	¼	1	Opt	.....	.....	.....	11
Nash 4017–2–2½	3	¼	1¼	1¼	....	9	1⅜	3½	1⅜	41¼	1¼		12	3¼	¼	2	12	3¼	¼	2	Opt	.....	.....	.....	11
Nelson & LeMoon G–2	4	¼	1¼	....	V	9	1⅜	3½	1⅜	41¼	1¼		13½	3½	¼	2	13½	3½	¼	2	Opt	.....	.....	.....	11
Nelson & LeMoon G–3	4	¼	1¼	....	V	9	1⅜	3½	1⅜	41¼	1¼		16½	3¾	¼	2	16½	3¾	¼	2	Opt	.....	.....	.....	11
Nelson & LeMoon G–4	4	¼	1¼	....	V	9	1⅜	3½	1⅜	41¼	1¼		18	4	¼	2	18	4	¼	2	142	94	234½	34¼	9
Nelson & LeMoon G–5	4	¼	1½	....	V	9	1⅜	3½	1⅜	41¼	1¼		13	3½	¼	4	13	3½	¼	4	139½	93½	234½	34¼	9
Netco DK–2	3	¼	1¼	1¼	V	12	2	6	2	40½	2		13	3½	¼	4	13	3½	¼	4	147	75	202	56	9½
Netco HL–2½–3	3	¼	1½	1¼	V	12	1½	16	1¼	40	1½	F	12	3¼	¼	2	12	3¼	¼	2	147	75	214	34¼	9½
Niles E–2	3	¼	1¾	1¼	V	13	1½	16	1¼	41¼	1½	F	13	3½	¼	2	13	3½	¼	2	102	74	203	34	.....
Niles H–2½	3	¼	1¾	1¼	V	8	1¼	11	1¼	30	¾	F	13	3½	¼	2	13	3½	¼	2	126	80	221	34	.....
Noble A21–1¼	4	¼	1	1¼	....	10	1¼	10	1¼	35	2⅛	F	19	2	¼	2	19	2	¼	2	.....	101	207	34	.....
Noble B31–2	4	¼	1	1¼	....	10	1¼	12½	1¼	33½	1⅛	F	43	2	¼	4	43	2	¼	4	.....	114	218	36	.....
Noble D51–2½	4	¼	1	1¼	....	7	1⅛	16½	1¼	34¼	1⅛	F	21	2¼	¼	4	21	2¼	¼	4	133	62	223½	33	9
Noble E71—3½	4	¼	1¼	1¼	....	9	2	12	1¼	34¼	1⅛	F	57	2½	¼	4	57	2½	¼	4	173	92	253¼	34⅝	11
Northway B–2–2	3	¼	1¼	1¾	V	14½	2	16	1¼	34¼	1⅛	F	50½	2¼	¼	2	50½	2¼	¼	2					
Northway B–3–3½	3	¼	1¼	1¾	V	5¼	2¼	13⅞	1¼	46	⅝	V	54	2½	¼	2	54	2½	¼	2					
Ogden A–2–¾	3	¼	1	1	H	12	2	6	2	44	¾	V	11	2½	¼	4	11	2½	¼	4	108	56	186	33¼	10½
Ogden D–1½	3	¼	1	1	V	13	2	12	2	44	¾	V	10	3	¼	4	10	3	¼	4	120	.....	.....	33¼	.....
Ogden E–2½	3	¼	1¼	2	V	10	1	14	1	30	1¼	F	52	2¼	¼	1	52	2¼	¼	1	144	.....	.....	33¼	.....
Ogden F–3½	3	¼	1½	2	V	11	½	16	½	36	1½	F	15⅝	3¾	¼	2	10⅝	3¾	¼	2	168	.....	.....	37	.....
Ogden G–5	3	¼	1½	3	V	9	2	18	2	40	2	F	11	6	¼	2	25	4	¼	2	168	.....	.....	37	.....
O. K.–1½	4	¼	1¼	1⅛	V	12	2	13½	1¼	36	2	F	53	2½	¼	2	38	2½	¼	2	117	.....	.....	34	.....
O. K.–2½	4	¼	1¼	1⅛	V	12	2	13½	1¼	36	2	F	62	2½	¼	2	48	2½	¼	2	121	.....	.....	34	.....
O. K.–3½	4	¼	1¼	1⅛	V	12	2	13½	1¼	38	2	F	62	2½	¼	2	48	2½	¼	2	133	.....	.....	34	.....
Old Reliable B–2½	3	¼	1¼	1¼	....	.....	.....	.....	.....	.....	.....		54	2	¼	1	54	2	¼	1	144	.....	.....	32	.....
Old Reliable C–3½	3	¼	1½	1½	....	.....	.....	.....	.....	.....	.....		60	2½	¼	1	60	2½	¼	1	150	.....	.....	32	.....
Old Reliable D–5	3	¼	1½	1½	....	.....	.....	.....	.....	.....	.....		72	3	¼	1	72	3	¼	1	156	.....	.....	34	.....
Old Reliable K. L. M.–7	3	¼	1½	1½	....	.....	.....	.....	.....	.....	.....		60	2½	¼	1	60	2	¼	1	158	.....	.....	36	.....
Oldsmobile T–1	3	¼	1½	1⅜	V	6¼	1¼	10½	1¼	40½	¾	V	42¼	2	¼	2	41	2	¼	2	92⅝	60⅞	177¾	34	12¼
Olympic A–2½	4	¼	1¼	1½	V	13	2	12	1¼	34	2	F	13½	3½	¼	2	13½	3½	¼	2	Opt	84	240	32½	10
Oneida B9–2	3	¼	1¼	1½	H	9½	1¼	9½	1¼	38½	2	F	48	2½	¼	2	34	2½	¼	2	114	.....	.....	34	.....
Oneida C9–2½	3	¼	1¼	1½	H	9½	1¼	9½	1¼	38½	2	F	58	2½	¼	2	43	2½	¼	2	138	.....	.....	34	.....
Oneida D9–3½	3	¼	1¼	1½	H	7	1½	9½	1½	40	2	F	16	3¾	¼	4	16	3¾	¼	4	155¾	.....	.....	36	.....
Oneida E9–5	3	¼	1¼	1½	H	7½	1¾	9½	1½	40	2	F	18	4	¼	4	18	4	¼	4	177	.....	.....	38	.....
Oshkosh A–2	3	¼	1¼	1½	H	16	2	17	2	33¾	1¼		23⅝	3½	¼	1	43½	2½	¼	2	108	75⅝	189	34	.....
Oshkosh AA–2	3	¼	1¼	1½	H	16	2	17	2	33¾	1¼		23⅝	3½	¼	1	43½	2½	¼	2	144	110⅜	224	34	.....
Oshkosh B–2½	4	¼	1¼	1½	V	9¾	1½	12	1½	36½	2	F	23⅝	4½	⅛	2	43½	2½	¼	2	125	85½	211	34	.....
Oshkosh BB2½	4	¼	1¼	1¼	V	9¾	1½	12	1½	36½	2	F	23⅝	4½	⅛	2	43½	2½	¼	2	144	104½	230	34	.....
Overland ½	4	¼	1¼	1⅛	H	12	2½	7¼	2½	33¼	⅞	V	31	4¼	⅛	2	27	1¼	¼	2	Opt	Opt	127¼	26	9½
Packard EC	3	¼	1⅝	1¾	V	6¼	1½	10⅜	1½	41	⅝	V	7	4¼	¼	2	14	2	¼	4	132	81½	219	31¾	9¾
Packard ED	3	¼	1⅝	1¾	V	6¼	1½	10⅜	1½	43	⅝	V	9	4¼	¼	2	17	3	¼	4	144	89⅞	235	39	9
Packard EF	3	¼	1⅝	1¾	V	6¼	1½	10⅜	1½	43	⅝	V	9	6¼	¼	2	18¾	3½	¼	4	144	119⅞	283	39	9½
Packard EX	3	¼	1⅝	1¾	V	6¼	1½	10⅜	1½	41	⅝	V	7	4¼	¼	2	14	2	¼	4	132	81¾	219	31¾	12
Parker B–23	4	¼	1	1¼	V	9	2	6	1¼	32	1¼	F	42	2¾	¼	2	42	2	¼	2	94½	58½	184½	33	9½
Parker E–23	3	¼	1¼	1½	V	4	1¼	16	1¼	37¾	1¼	F	11¾	3¼	¼	4	11¾	3¼	¼	4	113½	70½	200	33	9¾
Parker G1–2½	3	¼	1¼	1½	V	19	1¼	16	1½	38	2	F	10¾	5	¼	4	19	3½	¼	4	127	79	219	33	9½
Parker J20–3½	3	¼	1¼	1½	V	19	1¼	16½	1½	38	2	F	10¾	5	¼	4	19	3½	¼	4	139½	90	231½	33	11
Parker M20–5	3	¼	1½	1½	V	14	1¾	18	1¾	40½	2	F	10¾	5	¼	4	24½	4	¼	4	145	83½	243½	37	10¼
Patriot Revere–1	3	¼	1¼	⅜	H	8	2	9	2	39	1¼	F	40½	1¾	¼	2	40½	1¾	¼	2	93	56	184	33¼	11¾
Patriot Lincoln Special–2	3	¼	1¼	⅜	V	8	1¼	8	1¼	37	1¾	F	40½	1¾	¼	2	40½	1¾	¼	2	113	65	207	34	10
Patriot Washington Spl.–3	3	¼	1¼	⅜	V	11	1½	10	2	39	1¼	F	58	2½	¼	4	43	2	¼	4	150	82	246	34	10
Pierce Arrow–2–X–5	3	¼	1¼	1⅛	V	16⅜	2⅜	14¼	2½	43½	1½	F	22¼	2½	¼	4	22¼	2½	¼	4	125	70	225	34½	.....
Pierce Arrow–3½–W–2	3	¼	1¼	1⅛	V	11	2⅜	15½	2½	43½	1½	F	9	2¼	¼	4	18	4	¼	4	133¼	78¾	237	38½	.....
Pierce Arrow–5–R–10	3	¼	1¼	1⅛	V	11	2⅜	15½	2⅜	43½	1½	F	9	6	¼	4	20⅞	4¾	¼	4	139¼	84¾	243	38½	.....
Pioneer 59AA–1	3	¼	1¼	1½	V	13	2	12	1½	35	1		14	1¾	¼	2	14	2	¼	2	102	.....	.....	30	.....
Pittsburgher 2½	3	¼	1¼	1¼	V	6	1½	12	1¼	37	1		52	2¼	¼	2	52	2¼	¼	2	136	.....	.....	33	.....
Power F–2½	3	¼	....	....	....	8	1¼	12¼	1¼	39¾	2		26	2	¼	4	26	2	¼	4	143	.....	.....	32	.....

Replacement Table—Continued

NAME, MODEL AND TONNAGE	ENGINE												BRAKE LINING								FRAME				
	Piston Rings		Carburetor			Upper Hose		Lower Hose		Fan Belt			Service				Emergency				Length			Width	
	No. per Cyl.	Width	Outlet Diameter	Inlet Diameter	Vertical or Horizontal	Length	Width	Length	Width	Length	Width	Type	Length	Width	Thickness	No. of Pieces	Length	Width	Thickness	No. of Pieces	Back of Driver's Seat	Driver's Seat to Center of Rear Axle	Over All	Over All	Clearance at Lowest Point of Chassis
Rainier R31–¾	3	¾	1	¾	V	9	2	6	2	43¾	⅝	V	11	2½	¼	4	11	2½	¼	4	86½	50⅜	181	34	11¾
Rainier R-29–1	3	¾	1	¾	V	9	2	6	2	43¾	⅝	V	11	2½	¼	4	11	2½	¼	4	96½	57⅜	190¼	34	10¼
Rainier R36–1½	4	¾	1	¾	V	8	1½	14	1½	40	1¼	F	11¾	3¼	¼	4	11	3¼	¼	4	111	72¼	206½	34	9⅝
Rainier R28–2–2½	4	¼	1¼	¾	V	9½	1½	14	1½	42	1¼	F	20	2¼	¼	4	20	2¼	¼	4	124¾	80½	225	33	9⅝
Rainier R20–2½–3	4	¼	1¼	¾	V	9½	1½	14	1½	42	1¼	F	13	3½	¼	4	13	3½	¼	4	137½	85½	241¾	33	10
Rainier R25–3½–5	4	¼	1¼	¾	V	9½	1½	14	1½	42	1¼	F	15½	3¾	¼	4	15½	3¾	¼	4	157½	91	263⅞	37	8¾
Rainier R27–6	4	¼	1½	⅝	V	9½	1½	14	1½	42	1¾	F	18	4	¼	4	18	4	¼	4	154½	88	263⅞	37	9½
Reliance 10A–1½	4	¼	1¼	⅜	V	10½	2	13½	1⅜	35	2	F	17	2	¼	4	17	2	¼	4	122	.....	.....	34	.....
Reliance 20B–2½	4	¼	1¼	⅜	V	10½	2	13½	1⅜	35	2	F	17	2	¼	4	17	2	¼	4	127	.....	.....	32	.....
Reo F-2500 lbs.	3	¾	1	1¼	V	5½	1	5½	1	39	⅞	F	45⅜	3	¼	1	40	3	¼	1	81	55¾	171	30	10½
Republic 10-1-10E-1	3	¾	1	....	V	12¼	2	6	2	40	1¼	F	21¼	2½	¼	4	19¾	2¼	¼	4	.....	.....	.....	34	.....
Republic 11X–1½	3	¾	1	....	V	12¼	2	6	2	40	1¼	F	25¼	2½	¼	4	24¼	2¼	¼	2	118	.....	.....	34	.....
Republic 19–2½	3	¾	1¼	....	V	8	1½	11¾	1¼	32	1¼	F	25¼	2½	¼	4	24¼	2¼	¼	2	121	.....	.....	34	.....
Republic 20–3½	3	¾	1¼	....	V	7¼	1¾	5½	1¼	36¼	1½	F	55¾	3½	¼	2	30	4½	¼	1	146	.....	.....	37	.....
Republic Rapid Transit–¾	3	¾	1	....	V	12	2¼	18½	2¼	31	1	F	19	2	¼	4	18	2	¼	4	95	.....	.....	31	.....
Reynolds 23A–2	3	¾	1¼	1	V	10½	1½	10½	1½	35	2	F	24	2½	¼	4	24	2½	¼	4	136	.....	.....	33	.....
Reynolds 23B–3	3	¼	1¼	1	V	10½	1½	10½	1½	35	2	F	24	2½	¼	4	24	2½	¼	4	156	.....	.....	33	.....
Reynolds 23C–25-pas. Bus.	3	¼	1¼	1	V	10½	1½	10½	1½	35	2	F	Opt	2½	¼	2	27	2½	¼	2	220	.....	.....	53⅝	.....
Rowe CW–1½	3	¼	1¼	¾	....	10½	1¾	10½	1½	32½	1⅛	F	19	2	¼	4	19	2	¼	4	113	72	192½	33	11
Rowe CDW–2	3	¼	1¼	¾	....	10½	1¾	10½	1½	32½	1⅛	F	24	2½	¼	4	24	2½	¼	4	123	79	202½	33	10⅝
Rowe CDW–2½	4	¼	1¼	¾	V	20	1¾	15½	1½	32½	1⅛	F	24	2½	¼	4	24	2½	¼	4	123	103½	224	33	9¾
Rowe GSW–3	3	¼	1¼	¾	....	20	1¾	15½	1½	36¼	2	F	24	2½	¼	4	24	2½	¼	4	140	96¼	224	33	9¼
Rowe HW–4	3	¼	1¼	¾	....	20	1¾	15½	1½	36½	2	F	56½	2½	¼	2	56½	2½	¼	2	146	96	230½	36	9
Rowe FW–5	3	¼	1¼	¾	....	20	1¾	15½	1½	36¼	2	F	68	3	¼	2	68	3	¼	2	153	107¼	237½	38½	10½
Rowe GPW–3	3	¾	1¼	¾	....	10	1¼	6	1¾	...	...	...	24	2½	¼	4	24	2½	¼	4	152	96¾	233	33	12¾
Ruggles 15–¾	3	¾	1	¾	V	12½	2	20	2	34¾	1¼	F	43⅞	2	¼	2	39	1¾	¼	2	128	97½	170	38½	9¼
Ruggles 20R–1¼	3	¼	1¼	¾	V	7½	2	13½	1¼	35	1½	F	48	2½	¼	2	46⅝	2¼	¼	2	96⅝	55⅜	186¾	34	11
Ruggles 20AR–1¼	3	¼	1¼	¾	V	7½	2	13½	1¼	35	1½	F	48	2½	¼	2	46⅜	2¼	¼	2	104½	65	194¾	34	11
Ruggles 40–2	3	¼	1¼	¾	V	7½	2	13½	1¼	35	1½	F	47½	2½	¼	2	33¼	2½	¼	2	134¼	75½	224	34	8¼
Ruggles 40H–2½	3	¼	1¼	¾	V	7½	2	13½	1¼	35	1½	F	58	2½	¼	2	44	2½	¼	2	134¼	75½	224	34	9¼
Rumely A–1½	4	¾	1	1	V	10½	1¼	10½	1¼	37	2	F	18	2	¼	4	18	2	¼	4	122	72	213	34	11
Sandow G–1	3	¾	1¼	1	H	9	2	7	2	38¾	¾	V	22¼	2¼	¼	4	22¼	2¼	¼	4	96	.....	205	34	10½
Sandow C–G–1½	3	¾	1¼	1	H	9	2	7	2	38¾	¾	V	22¼	2¼	¼	4	22¼	2¼	¼	4	120	.....	.....	34	10½
Sandow J–2½	3	¾	1½	1¼	V	7	1¼	13	1¼	39	⅞	F	11¾	3½	¼	4	11¾	3½	¼	4	Opt	.....	.....	32	10½
Sandow M–3½	3	¾	1¾	1¼	V	9	1½	13	1¼	40	⅞	F	13½	4	¼	4	11¾	3½	¼	4	Opt	.....	.....	37	11
Sandow L–5	...	...	...	...	...	...	...	...	...	...	...	...	13½	4	¼	4	11¾	3½	¼	4	Opt	.....	.....	37	11
Sanford W15–1½	3	¾	1	1	H	9	2¼	11	1½	40	⅝	V	22¼	2¼	¼	4	22¼	2¼	¼	4	120	71¾	205¾	32	11
Sanford 25–2½	3	¾	1¼	1¼	V	8	1½	11	1½	32	1⅛	F	22¼	2¼	¼	4	22¼	2¼	¼	4	144	109½	238	35	9¾
Sanford 35–3½	3	¾	1¼	1¼	V	9	2¼	11	1½	32	1⅛	F	55¾	2½	¼	2	55¾	2½	¼	2	144	97½	244	35	8
Sanford 50–5	3	¾	1¼	1¼	V	9	2¼	11	1½	32	1⅛	F	65	2	¼	2	65	2	¼	2	144	97½	244	35	10½
Schacht F–2	4	¼	1¼	2	H	11	2	14	1¼	37½	2	F	8¼	3	¼	4	13½	3	¼	4	140	.....	.....	35¼	.....
Schacht F–3	4	¼	1¼	2	H	11	2	14	1¼	37½	2	F	8¼	3	¼	4	13½	3	¼	4	140	.....	.....	35¼	.....
Schacht E–4	4	¼	1¼	2	H	10½	2	13½	1¼	39¼	⅞	V	8¼	3	¼	4	15	4	⅜	4	152	.....	.....	35¾	.....
Schacht E–5	4	¼	1¼	2	H	10½	2	13½	1¼	39¼	⅞	V	8¼	3	¼	4	15	4	⅜	4	152	.....	.....	35¾	.....
Schacht E–7	4	¼	1¼	2	H	10½	2	13½	1¼	39¼	⅞	V	8¼	3¼	¼	4	15	4	⅜	4	152	.....	.....	35¾	.....
Selden Unit 30	3	¾	1	1	V	12	2	.....	...	41	1¼	F	11	3¼	1	4	11	3¼	¼	4	114	.....	.....	34	.....
Selden Unit 50	3	¾	1	1	V	8⅜	1½	14¾	1½	39¼	1½	F	13	3½	¼	4	13	3½	¼	4	136	.....	.....	34	.....
Selden Unit 31	3	¾	1	1	V	3¾	1¼	12	1¼	31	1½	F	13	3½	¼	4	13	3½	¼	4	176	.....	.....	34	.....
Selden Unit 70	3	¾	1¼	1	V	8⅜	1½	16¼	1½	40⅜	2	F	15⅝	3¾	¼	4	15⅝	3¾	¼	4	153	.....	.....	37½	.....
Selden Unit 52	3	¾	1¼	1	V	8⅜	1½	16¼	1½	40⅜	2	F	15⅝	3¾	¼	4	15⅝	3¾	¼	4	204	.....	.....	52	.....
Selden Unit 53	3	¾	1½	1	V	11½	1½	16¼	1½	40	2	F	13	3½	¼	4	13	3½	¼	4	136	.....	.....	34	.....
Selden Unit 90	3	¼	1½	1	V	7	1¾	16¾	1½	40⅜	2	F	17	4	¼	4	17	4	¼	4	153	.....	.....	37½	.....
Service 12–¾	3	¾	1¼	1¼	V	13½	2½	14½	2½	35½	1¼	F	10	2½	¼	4	10	2½	¼	4	101½	54	176¾	37	9
Service 25–1¼	3	¾	1¼	1⅝	H	12½	1¾	13	1¾	32¾	1½	F	19⅞	1¾	¼	4	19⅞	1¾	¼	4	106¾	65¾	190	32	9¼
Service 21–1½	3	¾	1¼	1	H	10	2	6	1¾	37¾	1	F	12	3¼	¼	2	12	3¼	¼	2	109½	70½	187	34	9
Service 32–2	4	¼	1¼	1	V	10	2	8	1¾	33	1¼	F	12	3¼	¼	2	12	3¼	¼	2	121	81	204½	34	10½
Service 37–2	4	¼	1¼	1	V	10	2	8	1¾	33	1¼	F	12	3¼	¼	2	12	3¼	¼	2	121	.....	.....	34	.....
Service 52–3	4	¼	1¼	1	V	10	2	8	1¾	33	1¼	F	13½	3½	¼	2	13½	3½	¼	2	131⅛	91	214½	34	10
Service 72–3½	4	¼	1¼	1	V	10	2	8	1¾	33	1¼	F	16	3¾	¼	2	16	3¾	¼	2	150¼	104½	233¾	38	8½
Service 77–4	4	¼	1¼	1	V	10	2	10	1¾	38¼	1½	F	16	3¾	¼	2	16	3¾	¼	2	145¾	100	233¾	38	8½
Service 102–6	4	¼	1¼	1	V	10	2	10	1¾	38¼	1½	F	18½	4	¼	2	18½	4	¼	2	145¾	100	233¾	38	10
Signal NF–1	4	¾	1¼	1	V	7¼	1½	12	1½	39¼	1¼	F	11	3	¼	4	11	3	¼	4	112	.....	.....	34	.....
Signal H 1½	3	¾	1¼	1	V	8	1½	9	1¼	30½	1¼	F	11¾	3½	¼	4	11¾	3½	¼	4	120	.....	.....	34	.....
Signal J–2½	3	¾	1¼	1	V	10	1½	12	1¼	30½	1¼	F	13⅜	3½	¼	4	13⅜	3½	¼	4	126	.....	.....	34	.....
Signal M 3½	3	¾	1¼	1	V	5½	1½	12	1¼	34¾	1¼	F	15¾	3¾	¼	4	15¾	3¾	¼	4	168	.....	.....	38	.....
Signal R–5	3	¼	1¼	1	V	8	2	16	2	41	2	F	18⅞	4	¼	4	18⅞	4	¼	4	172	.....	.....	00	.....
Standard 75–1¼	3	¾	1	1	H	10½	2	14¾	1	39¼	1¼	F	11¾	2½	¼	4	11¾	2½	¼	4	108	.....	198	38	9¾
Standard 1½K–1–1½	3	¾	1	1	V	10½	2	14¾	1	39¼	1¼	F	10⅞	3	¼	4	10⅞	3	¼	4	120	.....	210	32	9¾
Standard 2½K–2½–3	3	¾	1¼	1	V	10	1⅞	16	1⅞	40⅝	1½	F	13¾	3½	¼	4	13¾	3½	¼	4	132	.....	220⅜	32	10
Standard 3½K–3½–5	3	¾	1¼	1	V	10	1⅞	16	1⅞	41½	1½	F	15⅝	3¾	¼	4	15⅝	3¾	¼	4	144	.....	240	32	8¾
Standard 5K–5–7	3	¼	1½	1	V	8	1⅞	3½	1⅞	42¾	1¾	F	17	4	¼	4	17	4	¼	4	144	.....	244½	38	9
Sterling 1½	3	¼	1¼	¼	V	10	1½	19	1½	38	1½	F	11¾	3¼	¼	4	11¾	3¼	¼	4	120	70	216	38	.....
Sterling 2	3	¼	1¼	¼	V	10	1½	19	1½	38	1½	F	13⅜	3½	¼	4	13⅜	3½	¼	4	120	70	216	33½	.....
Sterling 2½	3	¼	1¼	¼	V	10	1½	19	1¼	38	1½	F	13⅜	3½	¼	4	13⅜	3½	¼	4	138	84	234	33½	.....
Sterling 3½	3	¼	1½	¼	V	13½	1½	22	1½	40½	1½	F	15¾	3¾	¼	4	15¾	3¾	¼	4	144	85	245	34	.....
Sterling 5-Worm	3	¼	1½	¼	V	10	1½	19	1½	40½	1½	F	17	4	¼	4	17	4	¼	4	158	91	259	38	.....
Sterling 5-Chain E.H.D.	3	¼	1½	¼	V	10	1½	19	1½	40½	1½	F	56½	3½	¼	2	29	4	¼	1	158	97	259	38	.....
Sterling 5–Ch. E. L. D.	3	¼	1½	¼	V	13½	1½	22	1½	40½	1½	F	56½	3½	¼	2	29	4	¼	1	158	97	259	38	.....
Sterling 7½	3	¼	1½	¼	V	10	1½	19	1½	40½	1½	F	56½	3½	¼	2	29	4	¼	1	158	97	259	38	.....
Stewart M15–1	3	¾	....	1	....	.....	.....	.....	.....	.....	.....	...	41⅜	2	¼	2	22¾	2	¼	1	99½	.....	.....	38	.....
Stewart M9–1½	3	¾	....	1	....	.....	.....	.....	.....	.....	.....	...	48½	2	¼	2	8	5	⅝	2	119¼	.....	.....	32	.....
Stewart M7X	3	¼	....	1⅜	....	.....	.....	.....	.....	.....	.....	...	50⅜	2	¼	2	8	5	⅝	2	132¾	.....	.....	32	.....
Stewart M10X	3	¼	....	1⅜	....	.....	.....	.....	.....	.....	.....	...	60	3	¼	2	8	5	⅝	2	138	.....	.....	32	.....
Stoughton C–¾	3	¾	1	1⅜	V	14	2½	14	2½	33	1½	F	56½	2½	⅛	2	55	2¼	⅛	2	92½	57	182	34	10½
Stoughton A–1	4	¼	1	1⅜	V	18	1¼	15	1¼	39¼	1½	F	16¾	1¾	¼	4	16¾	1¾	¼	4	88	57½	181	34	11⅝
Stoughton B–1½	4	¼	1	1⅜	V	18	1¼	15	1¼	39¼	1½	F	19	2	¼	4	19	2	¼	4	116	66	210	34	11
Stoughton D–2	4	¼	1¼	1⅝	V	9	1½	15	1¼	40	2	F	23	2¼	¼	4	23	2¼	¼	4	116	70	210	34	9¾
Stoughton F–3	3	¼	1¼	1⅝	V	12	2	15	1¼	44	2	F	23	2¼	¼	4	23	2¼	¼	4	127	82	222	36	9¾
Super Truck 50	3	¼	1½	1	V	19	1¾	19	1½	37½	1⅞	F	51½	2¼	¼	2	51½	1¼	¼	2	135	.....	.....	36	.....
Super Truck 70	3	¼	1¼	1	V	19½	1¾	19	1½	37½	1⅞	F	55½	2½	¼	2	55½	2¼	¼	2	144	.....	.....	34	.....
Super Truck 100	3	¼	1½	1	V	6	1¾	19	1¾	42	1⅞	F	68	3	¼	2	51½	3	¼	2	144	.....	.....	34	.....
Thomart Speed	3	¾	1¼	1	V	9	1¼	7¼	1¼	36½	2	F	19¾	1¾	¼	4	19⅜	1¾	¼	4	102	60⅜	195	34	10
Tiffin GW–1½	3	¾	1¼	1	V	.....	.....	.....	.....	.....	.....	...	46	2	¼	1	46	2	¼	1	114	70	.....	35	11
Tiffin MW–2½	3	¾	1¼	1	V	.....	.....	.....	.....	.....	.....	...	52	2¼	¼	1	52	2¼	¼	1	138½	81	.....	32¾	11⅛
Tiffin F–35–3½	3	¾	1¼	1	V	.....	.....	.....	.....	.....	.....	...	58	2½	¼	1	58	2½	¼	1	151	94½	.....	35½	11
Tiffin TW–5	4	¼	1½	1½	V	.....	.....	.....	.....	.....	.....	...	68	3	¼	1	68	3	¼	1	156	89½	.....	38½	11½
Tiffin UW–6	4	¼	1½	1½	V	.....	.....	.....	.....	.....	.....	...	68	3	¼	1	68	3	¼	1	156	89½	.....	38½	11½
Titan 2½	4	¼	1¼	1¼	....	.....	.....	.....	.....	.....	.....	...	14	3½	¾	4	9	5	¾	2	144	.....	.....	32	.....

Replacement Table—Continued

NAME, MODEL AND TONNAGE	ENGINE												BRAKE LINING								FRAME					
	Piston Rings		Carburetor			Upper Hose		Lower Hose		Fan Belt			Service				Emergency				Length				Width	
	No. per Cyl.	Width	Outlet Diameter	Inlet Diameter	Vertical or Horizontal	Length	Width	Length	Width	Length	Width	Type	Length	Width	Thickness	No. of Pieces	Length	Width	Thickness	No. of Pieces	Back of Driver's Seat	Driver's Seat to Center of Rear Axle	Over All		Over All	Clearance at Lowest Point of Chassis
Titan 3½	4	¼	1½	1¾	....	.....	.....	.....	.....	.....	.....	...	15	3	1/16	4	14	6	1/16	2	144	.....	.....		32	.....
Titan 5	4	¼	1½	1⅜	....	.....	.....	.....	.....	.....	.....	...	15	3	1/16	4	14	6	1/16	2	144	.....	.....		34	.....
Tower J–1½	3	1/16	1¼	1¼	V	7	1¾	11½	1⅜	33	1¼	F	11¾	3½	¼	4	11¾	3¼	¼	4	135¼	74½	224		32½	11½
Tower H–2½	3	1/16	1¼	1¼	V	7	1¾	11½	1⅜	33	1¼	F	13 1/16	3½	¼	4	13 1/16	3½	¼	4	138¾	75¾	230		32½	10½
Tower G–3½	3	1/16	1½	1½	V	7½	1¾	12	1⅜	36	1½	F	15 5/8	3¾	¼	4	15 5/8	3¾	¼	4	152 11/16	90 11/16	248		37	9½
Traffic C-4000	3	1/16	1	1/16	H	10½	2	10½	2	41¼	1¼	F	43½	2½	1/16	2	38	1¾	1/16	2	120¾	67¾	213 3/16		42	10¾
Traffic 6000	3	1/16	1	1/16	H	10½	2	10½	2	41¼	1¼	F	52	3	1/16	2	47	2	1/16	2	120¾	69¾	213 3/16		34	11¾
Traffic Speedboy	3	1/16	1	1/16	H	10½	2	10½	2	41¼	1¼	F	43½	2½	1/16	2	38	1¾	1/16	2	86	53⅛	174		34	11¾
Transport 15–1	3	1/16	1	1	H	10¾	2	13	2	40 3/16	1¼	F	48	2½	1/16	2	46 5/8	2¼	1/16	2	98⅛	.....	.....		34	.....
Transport 25–1½	3	1/16	1¼	1¼	H	12	2	12	2	36½	1	F	48½	2	1/16	2	46½	1½	1/16	2	100⅞	.....	.....		34	.....
Transport 35–2	3	1/16	1	1	V	10¾	2	13	2	40 3/16	1¼	F	11	3	1/16	2	46½	1½	1/16	2	116⅞	.....	.....		34	.....
Transport 60–3½	4	¼	1¼	1¼	V	9¼	2	10	1¼	32 3/16	2	F	10¼	3½	1/16	2	48½	2½	1/16	2	123⅛	.....	.....		34	.....
Transport 75–5	4	¼	1¼	1¼	V	12	2	16	1¼	35⅛	2	F	11⅞	3	1/16	4	58	2½	1/16	2	150⅛	.....	.....		36½	.....
Transport 55–3	3	1/16	1¼	1¼	V	9	1½	16	1¼	31½	1¼	F	10¼	3½	1/16	2	48½	2½	1/16	2	123⅛	.....	.....		34	.....
Traylor B	4	¼	1	....	V	.....	.....	.....	.....	38	1	F	50	2	¼	2	50	2	¼	2	117	75	204¾		34	10
Traylor C	4	¼	1¼	....	V	.....	.....	.....	.....	36	2	F	50	2	¼	2	50	2	¼	2	122	73½	218¾		34	10⅛
Traylor D	4	¼	1¼	....	V	.....	.....	.....	.....	36	2	F	56½	2¼	¼	2	56½	2¼	¼	2	142	76	241½		34	9¾
Traylor F	4	¼	1¼	....	V	.....	.....	.....	.....	37	2	F	59	2½	....	2	59	2½	....	2	165	92½	273¼		35	11
Triangle AA–1	3	1/16	1	1	H	17	2	17	2	34	1	F	22½	1¼	1/16	4	48	2½	1/16	2	94	53	177		35	10
Triangle A–1½	4	¼	1	1	V	14	1¼	14½	1¼	39¼	1½	F	7½	4	1/16	2	49	2	1/16	2	126	77½	225		34	12
Triangle B 2½	3	¼	1¼	1¼	V	9	1½	18	1¼	39¼	1½	F	7½	4	1/16	2	52	3	1/16	2	132	84½	217½		34	9
Triangle C–2	3	¼	1	1	V	14	1¼	14½	1¼	39¼	1½	F	7½	4	1/16	2	52	3	1/16	2	129	81	219⅛		34	12
Ultimate A–2	4	¼	1¼	1⅝	V	11	2	8	1¼	34	2	F	20	2¼	¼	2	45	2	¼	2	126	.....	.....		32¾	.....
Ultimate AJ2	4	¼	1¼	1⅝	V	11	2	8	1¼	34	2	F	20	2¼	¼	2	45	2	¼	2	126	.....	.....		32¾	.....
Ultimate AJL–2	4	¼	1¼	1⅝	V	11	2	8	1¼	34	2	F	20	2¼	¼	2	45	2	¼	2	150	.....	.....		32¾	.....
Ultimate AJXL	4	¼	1¼	1⅝	V	12	2	8	1¼	34	2	F	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	.....
Ultimate B–3	4	¼	1¼	1⅝	V	11	2	8	1¼	34	2	F	51	2½	¼	2	51	2¼	¼	2	144	.....	.....		32¾	.....
Ultimate BL3	4	¼	1¼	1⅝	V	11	2	8	1¼	34	2	F	51	2¼	¼	2	51	2¼	¼	2	192	.....	.....		32¾	.....
Ultimate D–5	4	¼	1¼	1⅝	V	11	2	8	1¼	34	2	F	51	2¼	¼	2	51	2¼	¼	2	180	.....	.....		37½	.....
Union FW–2½	3	¼	1¼	1¼	V	20	1¾	19½	1½	37¾	2	F	26	4½	¼	1	52	3	¼	1	133½	77¾	224		32	11½
Union H–4	3	¼	1¼	1¼	V	20	1¾	19½	1½	37¾	2	F	56¾	3½	1/16	1	32	4½	1/16	1	157½	.....	.....		34	.....
Union HW–4	3	¼	1¼	1¼	V	20	1¾	19½	1½	37¾	2	F	26	4¼	¼	1	24	4	¼	2	157½	98	264		34	13½
United H Spec	4	¼	1	1	H	16	2	19	2	32	1¼	F	49	2½	1/16	2	49	2½	1/16	2	.....	.....	.....		.....	.....
United 30, 35, 50	3	¼	1¼	1¼	H	7	1¾	13	1¼	34	1½	F	49	2½	1/16	2	49	2½	1/16	2	.....	.....	.....		.....	.....
United C	4	¼	1¼	1 11/16	H	7	2½	7	2½	37¼	2	F	62	3	1/16	1	58	2½	1/16	1	.....	.....	.....		.....	.....
United 1½	4	¼	1	1 1/16	H	15	2½	16	1½	37½	2	F	48	2	1/16	1	48	1½	1/16	1	120	.....	.....		33	.....
United 2½	4	¼	1¼	1 11/16	H	7	2½	12	1½	37½	2	F	49	3	1/16	1	49	2½	1/16	1	Opt	.....	.....		33	.....
United 3½	4	¼	1¼	1 11/16	H	7	2½	7	1½	37½	2	F	62	3	1/16	1	58	2½	1/16	1	Opt	.....	.....		34	.....
U.S.U.–1¼	4	1/16	1	1/16	H	11½	1¾	11½	1¼	33	1¼	F	50½	2½	1/16	2	20	1½	1/16	4	108	70	195		32	9¾
U.S.N.–1½	3	M	1	1/16	H	11½	2	9	1¼	37	1¼	F	50½	2½	1/16	2	46½	1½	1/16	2	120	82	211		34	11
U.S.N.W.–23–1½–2	4	1/16	1	1/16	H	10¾	1¾	11½	1¼	33	1¼	F	21	2¼	1/16	4	21	2¼	1/16	4	120	82	211		34	11
U.S.R.–2½–3	3	1/16	1¼	1/16	V	10	1¼	10	1¼	35	1¼	F	21	2¼	¼	4	21	2¼	¼	4	144	94	241		34	9¾
U.S.S.–3½–4	3	¼	1¼	¼	V	9	1½	8	1½	37	1¼	F	50	2½	¼	2	50	2½	¼	2	156	104	258		36	9
U.S.T. 5–7	4	¼	1½	¼	V	15	2	13	1½	38¾	2	F	62	3	¼	4	33	4	¼	1	168	103	278		36	10½
U.S.S.Spec. 4–5	3	¼	1¼	¼	V	9	1½	8	1½	37	1¼	F	21	4	¼	4	21	3	¼	4	156	.....	.....		36	.....
Velie 46–1½	3	M	1	1/16	V	9	2	12	1¼	41 3/16	3/4	V	54 1/16	2½	1/16	2	52⅛	2¼	1/16	2	120	.....	214½		31	14
Velie 53–2½	3	1/16	1¼	5/16	V	5½	1⅝	12½	1¼	40½	2	F	54 1/16	2½	1/16	2	52⅛	2¼	1/16	2	120	.....	.....		.....	31
Vim 50–½–¾	3	....	1	....	....	.....	.....	.....	.....	33⅛	.....	F	48	.....	.....	2	46 5/8	.....	.....	2	.....	.....	160		.....	.....
Walker M2	...	...	...	...	...	.....	.....	.....	.....	.....	.....	...	43	2¼	1/16	2	14	1¾	1/16	4	90	.....	.....		32	.....
Walker P3½	...	...	...	...	...	.....	.....	.....	.....	.....	.....	...	53¼	3	¼	2	19¼	2½	¼	4	140	.....	.....		35	.....
Walker N5	...	...	...	...	...	.....	.....	.....	.....	.....	.....	...	53¼	3	¼	2	19¼	2½	¼	4	162	.....	.....		35	.....
Walker 22	...	...	...	...	...	.....	.....	.....	.....	.....	.....	...	45½	2½	1/16	2	16	2	1/16	4	99	.....	.....		32	.....
Walker 42	...	...	...	...	...	.....	.....	.....	.....	.....	.....	...	53¼	3	¼	2	19¼	2½	¼	4	120	.....	.....		32	.....
Walker Johnson A–2	3	1/16	1	1	V	11½	2	7½	1¾	37	1	F	12	3¼	¼	4	12	3¼	¼	4	117	.....	.....		32	.....
Walker Johnson B3	4	¼	1¼	1¼	V	10	2	8	1¼	33½	1¼	F	13	3½	¼	4	13	3½	¼	4	133	.....	.....		32 1/16	.....
Walter S–5	3	¼	½	2	V	10	1½	18	1½	39	1½	F	15	5	¼	4	57	2½	¼	2	150	.....	.....		36	.....
Ward LaFr'e 2B–2½–3½	3	¼	1¼	1½	V	7	1½	16	1½	41½	1½	F	13	3½	¼	4	13	3½	¼	4	137½	.....	.....		33	.....
Ward LaFrance 4A–3½–5	3	¼	1¾	1¾	V	8½	1½	18	1½	41½	1½	F	15½	3¾	¼	4	15½	3¾	¼	4	170 1/16	.....	.....		37	.....
Ward LaFrance 5A–5–7	3	¼	1½	1¾	V	9¼	1½	18	1½	41½	1½	F	18	4	¼	4	18	4	¼	4	170 1/16	.....	.....		37	.....
Watson D-1	3	¼	1	1⅜	V	12½	1¾	12	1¼	40	1¼	F	10 1/16	2½	¼	4	10 1/16	2½	¼	4	99	60	186		30⅛	11
Watson N–3½	3	1/16	1¼	1½	V	16½	1¼	3	1¼	34	1¼	F	62	2½	¼	2	47	2½	¼	2	147	.....	.....		37	.....
Watson U–5	3	1/16	1¼	1½	V	16½	1¼	3	1¼	38½	1¼	F	15½	3¼	¼	4	15½	3¾	¼	4	.....	.....	.....		36	.....
White 15–A Taxi	3	¼	1 1/16	1 11/16	V	7¼	1	6½	1¼	38	1¼	F	46	2½	1/16	2	41 1/16	2½	1/16	2	55¾	.....	.....		36	.....
White 15, ¾	3	¼	1 1/16	1 11/16	V	7¼	1	6½	1¼	38	1¼	F	46	2½	1/16	2	41 1/16	2½	1/16	2	76½	.....	.....		34	.....
White 15–45, ¾	3	¼	1 11/16	1 11/16	V	13½	1½	12	1½	42¼	2	F	53⅞	2½	1/16	2	50⅛	2½	1/16	2	85⅜	46	180		34	10¾
White 20, 2	3	¼	1 1/16	1 11/16	V	7¼	1	7¼	1¼	38	1¼	F	55½	3½	¼	2	50⅛	3½	1/16	2	146	.....	.....		34	.....
White 20–D, 2	3	¼	1 1/16	1 11/16	V	7¼	1	7¼	1¼	38	1¼	F	55½	3½	¼	2	50⅛	3½	1/16	2	98	.....	.....		34	.....
White 20–45, 2	3	¼	1 11/16	1 11/16	V	13½	1½	12	1½	42¼	2	F	11⅜	4	¼	4	50⅞	3½	1/16	2	107½	70	202		34	9
White 50, Bus	3	¼	1 11/16	1 11/16	V	13½	1½	12	1½	42¼	2	F	11⅜	4	¼	4	50 1/16	3½	1/16	2	168	.....	.....		70	.....
White 40, 3½–45, 5	3	¼	1 11/16	1 11/16	V	13½	1½	12	1½	42¾	2	F	11⅜	4	¼	4	25 7/8	5	1/16	4	164	106½	267		42 1/16	13
White 40–D, 3½–45–D, 5	3	¼	1 11/16	1 11/16	V	13½	1½	12	1½	42¾	2	F	11⅜	4	¼	4	25 1/16	5	1/16	4	.....	106½	267		42 1/16	13
Wilcox AA–1	3	¼	1	....	....	.....	.....	.....	.....	.....	.....	...	47 1/16	2½	1/16	2	33¼	2½	1/16	2	96	.....	.....		34	.....
Wilcox B–1½	3	¼	1¼	....	....	.....	.....	.....	.....	.....	.....	...	47 1/16	2½	1/16	2	33¼	2½	1/16	2	132	.....	.....		33	.....
Wilcox C–2½	3	¼	1¼	....	....	.....	.....	.....	.....	.....	.....	...	57½	2½	1/16	2	42½	2½	1/16	2	141	.....	.....		33	.....
Wilcox E–3½	3	¼	1¼	....	....	.....	.....	.....	.....	.....	.....	...	57½	2½	¼	2	42½	2½	¼	2	156	.....	.....		33	.....
Wilcox F–5	3	¼	1½	....	....	.....	.....	.....	.....	.....	.....	...	69⅜	3½	¼	2	52	3½	¼	2	148½	.....	.....		36	.....
Wilson 1½	4	1/16	....	1	....	.....	.....	.....	.....	.....	1¼	...	39½	1¾	1/16	2	39½	1¾	1/16	2	132	72	229		33	10½
Wilson 2½	4	1/16	....	1¼	....	.....	.....	.....	.....	.....	1¼	...	13¼	3½	¼	4	13¼	3½	¼	4	144	90	229		33	9½
Wilson 3½	4	1/16	....	1½	....	.....	.....	.....	.....	.....	1½	...	16	3¾	¼	4	16	3¾	¼	4	156	95	245		37	9½
Wilson 5	4	1/16	....	1½	....	.....	.....	.....	.....	.....	1½	...	18	4	¼	4	18	4	¼	4	156	95	245		37	10¼
Winter & Hirsch K–2½	4	¼	1⅝	1½	V	12	1½	14	1½	48	1½	F	13½	3½	¼	4	13½	3½	¼	4	144	96	252		32	9
Winter & Hirsch L–3½	4	¼	1⅝	1½	V	12	1½	14	1½	48	1½	F	16	3¾	¼	4	16	3¾	¼	4	196	118	288		36	9
Winther 751–1	3	¼	1	....	H	15¾	2	17	2	36 1/16	1	F	42	2	1/16	2	24	2	1/16	1	102	.....	.....		30	12½
Winther 39–1¼	3	¼	1¼	....	V	10	1¾	4½	1½	33¼	1¼	F	50	2¼	¼	2	22½	2¼	¼	1	120	.....	.....		30	12
Winther 430–1½	3	¼	1¼	....	V	11¼	1½	11½	1¼	30 5/8	1½	F	50	2¼	¼	2	22½	2¼	¼	1	120	.....	.....		30	12
Winther 450 2½	3	¼	1¼	....	V	11½	1½	6½	1½	37½	1¼	F	52	3	¼	2	22½	2¼	¼	2	120	.....	.....		30	13
Winther 51–2½	3	¼	1¼	....	V	17⅞	1¾	8	1½	42½	2	F	52	3	¼	2	50	2¼	¼	2	144	.....	.....		33	14
Winther 70–3½	3	¼	1¼	....	V	17⅞	1¾	8	1½	42½	2	F	62	3	¼	2	60	2½	¼	2	156	.....	.....		33	14
Winther 109–5	3	¼	1½	....	V	21½	1¾	8	1½	42½	2	F	93	2¼	¼	2	93	2¼	¼	2	156	.....	.....		33	10
Winther 140–7	3	¼	1½	....	V	12	1¾	6	1¾	42¼	2	F	93	2¼	¼	2	93	2¼	¼	2	156	.....	.....		34	10
Wisconsin 2 (Loganville)	3	1/16	1¼	1¼	H	17	2	17	2	34	¼	F	58	2½	1/16	2	56½	2¼	1/16	2	114	.....	.....		34	.....
Wisconsin 2½ (Loganville)	3	1/16	1¼	1¼	V	12	1½	10	1¼	40	3/4	V	58	2½	1/16	2	56½	2¼	1/16	2	120	.....	.....		32	.....
Witt-Will N–1½	3	1/16	1¼	1¼	V	8	1½	12	1¼	31	1¼	F	48	3¼	¼	4	48	3¼	¼	4	Opt	80½	223		32	10
Witt-Will P–2	3	1/16	1¼	1¼	V	8	1½	12	1¼	41	1½	F	52	3½	¼	4	52	3½	¼	4	Opt	80½	223		32	10
Yellow Cab M22—¾	3	1/16	1	1½	V	7½	2	9 5/8	2	38½	5/8	V	49	2½	¼	2	45	2½	¼	2	60	.....	.....		43	.....
Yellow Cab M42–1¼	3	1/16	1	1½	V	7½	2	9 5/8	2	38½	5/8	V	11	3	¼	4	11	3	¼	4	92	.....	.....		32	.....

KEY OF ABBREVIATIONS

Note: Numerals on This Page Correspond With Numerals at Head of Specification Columns on Page Following. In All Specifications—O, Own; Op or Opt, Optional

Engine:

Beav—Beaver
Buda
Cont—Continental
GBS—Golden, Belknap & Swartz
Gr-B—Gray-Beal
Her—Hercules
Hin—Hinkley
1 H-Sp—Herschell-Spillman
LeR—Le Roi
Lib—Liberty
LMF—Light Mfg. & Fdy.
Lyco—Lycoming
Mid—Midwest
Sup—Supreme
Wau—Waukesha
Wei—Weidely
Wis—Wisconsin

Valve Arrangement:

H—Overhead
2 L—ELL-Head
S—Sleeve
T—TEE-Head

Radiator (Make):

BW—B & W
Brm—Brenem
Bus—Bush
Can—Candler
Chic—Chicago
Eag—Eagle
EM—English-Mersick
Eur—Eureka
Fed—Fedders
Flex—Flexo
GO—G. & O.
Har—Harrison
Hoo—Hooven
3 Idl—Ideal
Jam—Jamestown
Kue—Kuenz
Liv—Livingston
Lng—Long
McC—McCord
May—Mayo
Mod—Modine
Per—Perfex
R-T—Rome-Turney
SJ—Shotwell Johnson
Spar—Sparton
Spec—Special
Spli—Splitex
Stn—Standard
Whe—Wheeler

Lubrication:

4 FS—Force and Splash
F—Force Feed
S—Splash

Carburetor:

Bent—Bennett
Cart—Carter
Eag—Eagle
Ens—Ensign
Hol—Holly
John—Johnson
King—Kingston
5 Mar—Marvel
Mas—Master
Mill—Miller
Rayf—Rayfield
Scoe—Scoe
Strm—Stromberg
Sheb—Schebler
Stew—Stewart
Till—Tillotson
Zen—Zenith

Fuel Feed:

6 G—Gravity
P—Pressure
V—Vacuum

Governor:

Con—Continental
Dup—Duplex
Han—Handy
Her—Hercules
7 Hin—Hinkley
McC—McCanna
Mon—Monarch
Phar—Pharo
Pier—Pierce
Sim—Simplex
Wau—Waukesha

Ignition System:

Amr—American Swiss
Apo—Apollo
AtK—Atwater Kent
AuL—Auto-Lite
Ber—Berling
Bos—Bosch
Con—Connecticut
Del—Delco
Eis—Eisemann
Kin—Kingston
8 KW—K. W. Ignition Co.
Lor—Louraine
NE—North East
POL—Prest-O-Lite
Rm—Remy
RBo—Robert Bosch
Sim—Simms
Spl—Splitdorf
Tea—Teagle
Wag—Wagner
Wes—Westinghouse

Engine Starter:

AC—Allis-Chalmers
AK—Atwater Kent
AuL—Auto-Lite
Bj—Bijur
Bos—Bosch
Del—Delco
Dy—Dyneto
9 GD—Gray & Davis
LN—Leece-Neville
NE—North East
Rm—Remy
Sim—Simms
USL—U. S. L.
Wes—Westinghouse
Wg—Wagner

Clutch (Make):

B.B—Borg & Beck
B-Li—Brown-Lipe
Covt—Covert
Det—Detlaff
DG—Detroit Gear & Mach.
Dod—Dodge
Full—Fuller
10 Hart—Hartford
Hoos—Hoosier
HS—Hele-Shaw
M-E—Merchant & Evans
Mun—Muncie
T-D—Twin Disc
W-Gr—Warner Gear

Gearset:

B-Li—Brown-Lipe
Cott—Cotta
Covt—Covert
11 Det—Detroit
Dod—Dodge
Dun—Dundore
Durs—Durston
Full—Fuller
G-Le—Grant Lees
MM—Mechanics Mach. Co.
Mun—Muncie
W-C—Warner Corporation
W-Gr—Warner Gear

Location of Gearset:

A—Amidships
J—Unit with jackshaft
12 R—Rear
U—Unit with engine

Universal:

Acm—Acme
Arv—Arvac
Bld—Blood-Brothers
Det—Detroit
Hart—Hartford
KB—Kinsler-Bennett
MM—Mechanics
M-E—Merchant & Evans
Nor—Norwalk
Pet—Cleveland Universal
13 Pick—Pick
Sned—Snead
Spic—Spicer
Ster—Sterling
Ther—Thermoid
UM—Universal Machine
UP—Universal Products
Var—Varied

Springs:

Am—Am. Auto Parts
Arm—Armstrong
Bea—Beans
Cham—Champion
Del—Delany
Det—Detroit
GC—Garden City
Har—Harvey
IC—Iron City
Kal—Kalamazoo
Lah—Laher
Lig—Liggett
Mar—Maremont
14 Math—Mather
Mer—Merrill
Nat—National
Pen—Penn
Per—Perfection
P.S.—Point Spring Co.
Row—Rowland
Shel—Sheldon
SP—Spring Perch
Stan—Stan-Par
SS—Standard Steel
Ster—Sterling
Tut—Tuthill
US—United States
Vul—Jenkins Vulcan

Front Axle

Col—Columbia
Cont—Continental
Dod—Dodge
Fli—Flint
15 Sals—Salisbury
Sav—Savage
Shel—Sheldon
Shul—Shuler
Stan—Stan-Par
Tim—Timken
Torb—Torbensen
Vul—Vulcan

Final Drive:

B—Bevel Gear
C—Chain
I—Internal Gear
16 P—Spur
R—Double Reduction
S—Spiral Bevel
W—Worm

Rear Axle (Make):

Col—Columbia
Clark
Dun—Dunkirk
Eat—Eaton
Fli—Flint
Huck—Huck
IrM—Iron Mt.
LM—L M Axle
17 Russ—Russel
Sals—Salisbury
Shel—Sheldon
Stn—Standard Parts
Thom—Thomson
Tim—Timken
Torb—Torbensen
Vul—Vulcan
Walk—Walker
Wis—Wisconsin

Rear Axle (Type):

F—Floating
18 D—Dead
½—Semi-Floating
¾—¾-Floating

Steering Gear:

CAS—C. A. S. Products Co.
Dit—Ditwiler
Dod—Dodge
Gem—Gemmer
Hin—Keystone Hindley
19 Jac—Jacox
Lav—Lavine
M-P—Muncie Products
Ros—Ross
Sag—Saginaw Products Co.
Woh—Wohlrab

Wheels:

Arc—Archibald
AuW—Auto Wheel
Bim—Bimel
Bud—Budd
Cla—Clark
C&M—Crane & McMahon
Day—Dayton
Det—Detroit
Dis—Disteel
E&O—Eberly & Oris
Hay—Hayes
Hoo—Hoopes Brothers
Imp—Imperial
Ind—Indestructible
Jon—Jones
20 Kel—Kelsey
MM—Michigan Malleable Iron Co.
Mot—Motor Wheel
Mun—Muncie Wheel
Mut—Mutual
Nor—Northern
Pru—Prudden
Roy—Royer
Sch—Schwartz
Smi—Smith
Sta—Stanwell
StM—St. Mary
Stn—Standard
Wal—Walker
Way—Wayne
W-L—Waterhouse & Lester

Rim Equipment:

Bak—Baker
Cle—Cleveland
Det—Detroit
Fir—Firestone
21 Gdy—Goodyear
Hay—Hayes
Jac—Jackson
Jax—Jaxon
Kel—Kelsey
Mil—Miller

Commercial Car Specifications—Corrected Monthly

The Specifications, Chassis Prices, Etc., Are Corrected Each Month From Data Supplied Direct by the Makers. Gasoline Tractor-Trucks Will be Found at the End of Gasoline Commercial Cars

See Preceding Table for Replacement Data. Truck Frame Dimensions Are Included in Same Table

(Where prices are not given it is because we have been unable to get them from authoritative sources)

* This symbol in the wheelbase column indicates that more than one wheelbase is furnished

TRADE NAME AND MODEL	Chassis Price	ENGINE DETAILS: Make and Model Number (4 cylinder unless otherwise noted.)	Bore and Stroke	N.A.C.C. Horsepower	Valve Arrange't	Radiator (Make)	Lubrication	Carburetor	Fuel Feed	Governor (Make)	Ignition System	Engine Starter	Clutch (Make)	GEARSET: Make and Model Number	Location	Speeds	Universal (Make)	Springs (Make)	FRONT AXLE and Model Number	REAR AXLE: Final Drive	Make and Model Number	Type	Total Gear Reduction in High	Total Gear Reduction in Low	Steering Gear (Make)	TIRES, WHEELS, RIMS: *Pneumatic †Dual ‡Solid — Front	Rear	Wheels (Make)	Rim Equipment	Chassis Weight (Stripped)	Wheelbase
		1		2	3	4	5	6	7		8	9	10	11	12		13	14	15	16	17	18			19			20	21		
1000 Pounds																															
Chevrolet, Sup. LD	510	Own	3 11/16x4	21.7	...	Har	FS	Zen	G	.....	Rm	Rm	Own	.....	U	3	Own	SS	.....	S	.....	1/2	3.77	12.52	M-P	30x3 1/2	30x3 1/2	Hay	Jax	1390	103
Dort	685	Lyco K	3 1/2x5	19.6	L	Fed	S	Cart	V	.....	Con	Bos	Own	Own	U	3	MM	Lig	Fli 2FA 803	S	Fli 2FA 105	3/4	4.66	15.13	Sag	31x4*	31x4*	Hay	Jac	2015	106
Overland	425	Own	3 5/8x4	18.2	L	Own	FS	Till	G	.....	AuL	AuL	B.B.	Own	U	3	Own	Own	Own	B	Own	1/2	4.5	17.68	Own	30x3 1/2	30x3 1/2	Hay	Hay	1550	100
1500 Pounds																															
American LaFrance 1R	....	Own	4 1/4x5	28.9	L	Bus	FS	Strm	G	.....	....	Wes	Own	Own	A	3	Own	Mer	Own	B	Own	...	4.7	25.3	Own	33x5*	33x5*	Hoo	.....	.....	139 1/2
Buick	....	Own SD-4	3 5/8x4 3/4	18.2	...	Own	FS	Mar	V	.....	Del	Del	Own	Own	U	3	Own	Opt	.....	S	Own	3/4	4.66	13.05	Jac	31x4	31x4	.....	Jac	2030	109
Chevrolet G	575	Own	3 11/16x4	21.7	H	Har	FS	Zen	G	.....	Rm	Rm	Own	.....	...	3	Own	SS	.....	S	.....	1/2	5.42	18	M-P	31x4*	34x4 1/2*	Hay	Jax	1825	120
Commerce 9	....	Cont N	3 3/4x5	22.5	L	Lng	S	Zen	V	.....	Bos	Bj	DG	Det	U	3	UM	Am	.....	B	Sals	3/4	5.73	18.33	Jac	33x5	33x5	Mot	.....	3100	127
Corbitt S Speed Truck	....	H-Sp 30	3 1/2x5	19.8	L	Own	FS	Strm	V	.....	Eis	Dy	B-Li	B-Li 30	U	3	Hart	Shel	Shel 33FA500	W	Shel W1002	1/2	6	20	Ros	34x4 1/2*	34x4 1/2*	Bim	Fir	3420	130
Dodge Brothers	730	Own	3 7/8x4 1/2	24	L	McC	FS	Stew	V	.....	NE	NE	Own	Own	U	3	Own	Own	Own	S	Own	1/2	4.16	17.4	Own	32x4*	32x4*	Kel	Kel	2130	114
Ogden A2	....	Cont N	3 1/2x5	19.6	L	Chic	FS	Zen	V	.....	Spl	.....	B-Li	B-Li 30	U	3	M-E	Tut	Tim 1250	W	Tim 6250	1/2	6.2	.....	Ros	34x5	34x5	Stn	.....	3100	125
Perfection A	1245	Cont N	3 1/2x5	19.6	L	Own	FS	Zen	V	.....	Rm	Rm	B.B.	Own AAU	U	3	Ther	Own	Tim 1216-B	B	Tim 5311	1/2	5	22.3	Lav	32x4 1/2	32x4 1/2	Bim	Mil	2500	128
Rainier R-31	1970	Cont N	3 3/4x5	22.5	L	Har	FS	Zen	V	Mon	Eis	....	B-Li	B-Li 30	U	3	Hart	Per	Tim 1250	W	Tim 6250	1/2	6.75	22.5	Lav	35x5*	35x5*	Jon	Fir	2500	125
Ruggles 15	895	H-Sp. 30	3 1/2x5	19.6	L	Per	FS	Zen	G	.....	Bos	Bos	M-E	Full J	U	3	Spic	Det	Col 3000	B	Col 30000	3/4	5.81	19.7	Jac	32x4 1/2	32x4 1/2	Nor	Fir	2300	122
Service 12	....	Mid 409	3 1/4x4 1/2	16.9	H	Lng	F	Strm	G	.....	Rm	Rm	Hoos	Det DY 208	U	3	M-E	Shel	Own E-1-558	B	Tim 5311	1/2	6.88	22.1	Ros	32x4 1/2*	32x4 1/2*	Bim	Fir	2720	128
Stoughton C	1095	.....	.....	18.2	H	Chic	F	Zen	V	.....	Rm	Rm	Det	Own D-21	U	3	Ther	Own	Col 5108	S	Col 52003	3/4	5.87	20	Lav	34x4 1/2*	34x4 1/2*	Roy	Gdy	2480	131
Vim 50	995	Own	4 x5	25.6	L	McC	F	Zen	G	.....	Wes	Wes	Own	Own	U	3	MM	Shel	Own	B	Own	...	4.7	.....	Own	32x4*	32x4*	.....	Fir	2600	108
White 15	2400	Own GK	3 3/4x5 1/2	22.5	L	.....	FS	Zen	G	.....	.....	.....	Own	Own TBC	A	4	Own	.....	Own	B	Own	1/2	3.99	18.6	Own	34x5*	34x5*	.....	Fir	8225	133
Yellow Cab..M-22-3/4	1590	Cont V-4	3 3/4x5	22.5	L	Lng	FS	Zen	G	.....	Bos	.....	B-Li	.....	U	3	Spic	Math	.....	B	.....	...	4.9	16.31	Gem	33x4 1/2*	33x4 1/2*	Stn	Fir	2400	117
1 Ton																															
Acme 20	....	Cont N	3 3/4x5	22.5	L	GO	FS	Rayf	V	Dup	Eis	Bos	B.B.	Cott AAU	U	3	Bld	Det	Tim 1250	W	Tim 6250	1/2	6.75	27	Ros	35x5*	35x5*	Bim	.....	3050	129
Autocar F	2200	Own 2	4 3/4x4 1/2	18	L	Own	S	Strm	G	.....	.....	.....	Own	Own	A	3	Spic	Del	Own	R	Own	F	8.3	33.2	Ros	34x4	34x6	Hoo	.....	3800	97
Autocar G	2300	Own 2	4 3/4x4 1/2	18	L	Own	S	Strm	G	.....	.....	.....	Own	Own	A	3	Spic	Del	Own	R	Own	F	8.3	33.2	Ros	34x4	34x6	Hoo	.....	3900	120
Avery	....	Own 6	3 x4	21.6	L	Own	S	Strm	V	Own	KW	Wis	Own	Own	U	3	Pet	Math	Own	I	Own 2-L	D	8	26.66	Ros	34x5*	34x5*	StM	Gdy	2800	129
Bell M	1495	Buda MU	3 5/8x5 1/8	21	L	Chic	F	Zen	V	.....	Eis	.....	B.B.	.....	U	3	Spic	Det	.....	W	.....	...	7.2	.....	Lav	35x5	35x5	Bim	Fir	2500	126
Belmont B	1525	Buda MU	3 5/8x5 1/8	21	L	R-T	F	Zen	V	.....	Con	Dy	Full	Full	U	3	M-E	Math	Shel 510	B	Torb A	1/2	5.42	15.25	Lav	35x5*	35x5*	Sim	Fir	2000	113
Bessemer G	1450	Cont N	3 1/2x5	19.6	L	Stn	FS	Strm	G	.....	Bos	Bj	Full	Full TU 3/4	U	3	Bld	Per	Shel 350	I	Torb A	D	.....	.....	Ros	35x5	35x5	Sch	Fir	3000	124
Betz	1850	J-3	3 3/4x5 1/8	22.3	L	Chic	F	Zen	G	Mon	Bos	Bos	B-Li	B-Li 30	U	3	Pet	Mar	Tim 1250	W	Tim 6352	1/2	.....	.....	Ros	34x5	34x5	.....	Fir	3150	140
Brockway E	....	Wis SU	4 x5	25.6	H	GO	F	Zen	V	.....	Bos	LN	B-Li	B-Li 30	U	3	M-E	Row	Col 5045	S	Col 52001	F	5.13	20.5	Gem	33x5*	33x5*	.....	Fir	3450	135
Casco Model A	1785	Buda WTU	3 3/4x5 1/8	22.4	L	GO	F	Zen	V	.....	Bos	Bos	Full	Full SUI	U	3	Spic	Stan	Col 5000	S	Col 52000	1/2	5.85	23.46	Woh	34x5	34x5	Arc	Fir	3100	130
Chevrolet T	1095	Own	3 11/16x5 1/4	21.7	H	Har	FS	Zen	G	Mon	Rm	AuL	Own	.....	...	3	.....	Arm	.....	W	.....	1/2	7	24.67	M-P	33x4*	35x5*	Hay	Jax	2840	125
Corbitt E-22	....	Cont N	3 3/4x5	22.5	L	McC	FS	Strm	V	.....	Eis	.....	B-Li	B-Li 30	U	3	Hart	Shel	Shel 33FA500	W	Shel W-1002	1/2	6	20	Ros	34x3 1/2	34x4	Bim	Fir	3730	130
Day-Elder AN	....	Buda WTU	3 3/4x5 1/2	22.5	L	Bus	F	Zen	G	.....	Eis	.....	B-Li	B-Li	U	3	Hart	Shel	Col 7018	W	Tim	1/2	6.2	20.71	Gem	34x3 1/2	34x4	Jon	Fir	3000	128
Diehl A	....	Cont N	3 1/2x5	19.6	L	.....	FS	Zen	G	.....	Sim	.....	B.B.	Durs O2800	...	3	KB	Mar	Sals 1455E	I	Torb OX2L	D	5.3	.....	Ros	34x4 1/2*	35x5*	Sch	Fir	2400	115
D-Olt A-1	1695	H-Sp 7000	3 1/2x5	19.6	L	.....	FS	Zen	V	Opt	RBo	.....	B-Li	B-Li 30	U	3	Spic	SP	Tim 1250	W	Tim 6250	1/2	6.75	22	Ros	35x5	35x5	Day	Fir	3400	148
Dorris K-2	2490	Own	4 x5 1/2	25.6	H	Mod	F	Strm	V	.....	Bos	Wes	Own	W-Gr	U	3	Spic	Row	Tim 1250	B	Tim 5542	1/2	4.23	15.65	Ros	33x5	33x5	Mun	.....	2000	Op
Duplex D	....	Buda WTU	3 3/4x5 1/8	22.5	L	Mod	F	Zen	V	.....	Wes	Wes	B-Li	B-Li	U	3	Pet	Pen	.....	B	Tim	1/2	5.5	22	Woh	33x5*	33x5	Mot	Fir	3000	132
Eugol	1795	Buda WTU	3 3/4x5 1/8	22.5	L	Chic	F	Strm	V	.....	Wes	Wis	W-Gr	.....	U	3	Pet	Math	.....	W	.....	1/2	6.25	30.3	Ros	34x5*	34x5*	Bim	Fir	3500	135
Federal R-2	....	Cont J-4	3 3/4x5	22.5	L	Own	F	Zen	V	.....	Eis	Rm	B.B.	Det	U	3	Pet	.....	Tim 1250	W	Tim 6250	1/2	5.6	17.4	Gem	33x5	33x5†	.....	.....	2950	132
Ford T	380	Own	3 3/4x4	22.5	L	Own	S	.....	G	.....	Own	.....	Own	Own	U	2	Own	Own	Own	W	Own	1/2	Op	19.9	Own	30x3 1/2*	32x4 1/2	.....	.....	1520	124
Fulton A	1495	H-Sp 7000	3 1/2x5	19.6	L	Liv	FS	Cart	G	.....	Sim	Wis	B.B.	Durs O2500B	U	3	Spic	Row	Col 5038	B	Col 51002	...	6.8	.....	Lav	35x5	35x5	Hoo	Fir	2800	130
Garford 15	1590	Buda MU	3 5/8x5 1/8	21	L	Lng	F	Strm	G	.....	AtK	AtK	.....	Own	U	3	Spic	Per	Own	W	Stn	1/2	6.5	.....	Gem	34x5*	34x5	.....	Fir	3500	132
Gary F	1775	Buda WU	3 3/4x5 1/8	22.5	L	Chic	FS	Zen	V	Pier	Eis	.....	Full	Full	U	3	Bld	Tut	Tim 1452	W	Tim 6352	1/2	8.25	24.75	Ros	36x3 1/2	36x4	Pru	Gdy	3400	130
G.M.C. K-16	....	Own	3 1/2x5 1/2	19.6	L	Own	F	Mar	G	Own	Sim	Own	Own	Own	U	3	UM	Det	Own	B	Own	3/4	6	21.9	Own	34x5*	34x5*	Kel	.....	3250	132
Gotfredson	1685	Buda WTU	3 3/4x5 1/8	22.5	L	McC	F	Zen	V	.....	Bos	AtK	B-Li	B-Li 30	U	3	Spi	Am	Tim 1250	W	Tim 6250	1/2	5.6	22.4	Gem	34x5*	34x5*	Day	Fir	3250	131
Graham Brothers B	1265	Dodge	3 7/8x4 1/2	24	L	McC	FS	Stew	V	.....	NE	NE	Dod	Dod	U	3	UP	Det	Dod	S	Own B-360	1/2	6.28	29.29	Dod	33x4 1/2*	34x5*	.....	.....	2550	140
Gramm-Pioneer 10-SpT	1245	Lyco CT	3 3/4x5	22.5	L	Own	F	Zen	G	.....	Con	AuL	Mun	.....	U	3	Own	Per	Sals	B	Sals 1483	3/4	5.75	23	Ros	33x5*	33x5*	.....	Fir	2370	129
Hal-Fur D	2000	Hin HA 400	4 x5 1/2	25.6	L	GO	F	Zen	V	Hin	Bos	Wis	B.B.	B-Li 35	A	4	Pet	Per	Tim 1452	W	Tim 6352	1/2	5.5	24	Gem	35x5*	36x6	Stn	Fir	3400	Op
Hawkeye	1375	Buda WTU	3 3/4x5 1/8	22.5	L	.....	F	Zen	G	.....	Eis	.....	Full	.....	U	3	.....	Det	.....	I	Clark	D	6.25	18.75	Ros	34x5	34x5	Day	Fir	3250	136
Independent B (Iowa)	1665	Cont N	3 1/2x5	19.6	L	GC	FS	Strm	V	.....	Bos	.....	Full	.....	U	3	Bld	GC	.....	...	.....	D	.....	.....	Lav	34x3	34x4	StM	Fir	3480	135
Indiana Highway Exp	....	Wau BUX	3 3/4x5 1/4	22.5	L	Fed	F	Zen	G	.....	Bos	Bos	B.B.	B-Li 30	U	3	Pet	Shel	Tim 1250	B	Tim 5511	1/2	6.11	24.9	Ros	34x5*	34x5*	.....	Fir	3200	130

Int'n'l Speed Truck S..	....	Lyco-Int'l	3½x5	19.6	L	Lng	FS	Ens	G	.....	Con	AuL	Mun	.....	U	3	Sned	Stan	.....	I	.....	D	6.3	25.2	CAS	.....	.....	Opt	.....	2750	124							
International 21.....	....	Own	3½x5¼	19.6	L	Own	FS	Ens	G	Own	Bos	Own	Own	.....	A	3	Own	.....	.....	I	.....	D	7	23.5	Own	.....	.....	Own	.....	3030	115							
Kearns H	1150	H-Sp 7000	3½x5	19.6	L	Own	FS	Zen	V	.....	Bos	Dy	B.B.	.....	U	3	Spic	Math	.....	I	.....	...	5.3	24	Lav	32x4½*	32x4½*	Sch	Fir	2000	118							
Kissel Express.....	1585	Own 80000	3 7/8x5½	24.1	L	McC	S	Strm	G	Rm	.....	.....	W-Gr	.....	U	3	Spic	Math	.....	W	.....	F	5.17	18.9	Jac	34x5*	34x5*	StM	Sch	3780	140							
Kleiber AA.....	.....	Cont J-4	4 1/8x5¼	27.2	L	Per	FS	Strm	G	Sim	Bos	.....	.....	.....	U	3	Spic	Shel	.....	W	.....	½	7.1	31	Ros	34x3½	34x5	W-L	.....	4200	130							
Luedinghaus C.....	1695	H-Sp 7000	3½x5	19.6	L	Own	FS	Sheb	G	.....	Wes	Wes	B.B.	.....	U	3	Spic	Tut	.....	W	.....	½	6.2	18.32	Lav	35x5*	35x5*	StM	.....	2850	130							
Menominee Hurryton..	1650	Wis SU	4 x5	25.6	H	Own	F	Strm	G	.....	Eis	Bos	Full	.....	U	3	Spic	Per	.....	S	.....	½	4.58	18.3	Ros	34x5	34x5	Stn	Fir	3500	132							
Moreland R-R.....	1800	Her-O	4 x5	25.6	L	Own	F	Zen	G	.....	AuL	AuL	B-Li	B-Li 30	U	3	Pet	US	Tim 1250	B	Tim 5512	½	5.5	22	Ros	34x5	34x5	.....	Fir	3335	132							
Nash 2018.....	1595	Own 4	3¾x5¼	22.5	L	.....	F	Strm	G	Sim	Eis	AuL	B.B.	Det C	U	3	Own	Har	Cwn	I	Clark 10	D	6.8	21.85	Lav	34x4	34x5	AuW	.....	3400	130							
Nelson-LeMoon G-1....	.....	Cont J-4	3¾x5	22.5	L	Chic	F	Strm	V	.....	Bos	Bos	Full	Full LTU 5	U	3	Own	GC	Tim 1250	W	Tim 6250	½	6.25	.....	Ros	34x5*	34x5*	StM	Fir	2700	151							
Noble A-75.....	1395	Buda WTU	3¾x5 1/8	22.5	L	Chic	F	Strm	V	.....	Eis	Bos	Full	Full LTU 4	U	3	Bld	.....	.....	B	.....	...	5.66	22.64	Lav	34x4½*	34x4½*	Bim	Fir	3300	130							
O.K. 1 Ton.....	1650	Buda WTU	3¾x5 1/8	22.5	L	R-T	FS	Zen	V	.....	Eis	.....	Full	.....	U	3	Hart	Tut	.....	W	.....	½	6.2	24.8	Ros	34x5	34x5	Bim	Gdy	3480	134							
Oldsmobile.....	1095	Own	3 11/16x5¼	21.7	H	Har	FS	Zen	V	.....	Rm	AuL	B.B.	W-Gr	U	3	Spic	Per	Torb 25	I	Torb OX2L	D	6.5	22.8	Jac	35x5*	35x5*	AuW	Jax	2580	128							
Parker B-23.....	1400	Buda WTU	3¾x5 1/8	22.5	L	Own	F	Zen	V	.....	Wes	Wes	Full	Full SU	U	3	Bld	Tut	Fli	B	Fli 70 BA 10	F	5.5	22	Lav	33x5	33x5	Bim	.....	2700	131							
Patriot Revere.....	1295	Cont N	3¾x5	22.5	L	Mod	FS	Strm	V	.....	AtK	Bj	B.B.	Covt MA	A	3	Ther	Mar	Fli 50B	W	Own B	½	6.2	22.69	CAS	35x5	35x5	Bim	Gdy	2800	128							
Pioneer AA (Chicago)..	1550	GBS	3¾x4¼	22.5	L	Own	F	Zen	V	.....	Bos	AuL	DG	.....	U	3	Ther	GC	.....	W	.....	¾	6.1	25.1	Wol	32x4½*	32x4½*	Bim	Fir	2500	132							
Rainier R-29.....	2150	Cont N	3¾x5	22.5	L	Har	FS	Zen	V	Mon	Eis	.....	B-Li	B-Li 30	U	3	Spic	Per	Tim 1250	W	Tim 6250	½	6.75	22.5	Lav	34x3½	34x4	Jon	.....	2700	133							
Republic 10.....	2150	Cont N	3¾x5	22.5	L	Own	FS	Strm	G	.....	Bos	.....	Full	.....	U	3	Spic	Math	.....	I	.....	D	6.28	18.21	Jac	34x3	34x4	Nor	Fir	2950	124							
Sandow.....	1795	Cont N	3¾x5	22.5	L	Chic	FS	Strm	G	.....	Eis	.....	Full	Full TU¾	U	3	Spic	.....	Shel FA-500	W	Tim 1501W	...	7.	23.4	Ros	.....	.....	Opt	Fir	3000	120							
Sanford W-10.....	....	Cont 8-R	3¾x4½	27.3	L	R-T	F	Strm	G	.....	Con	Dy	B.B.	B-Li 30	U	3	Spic	Shel	Sals D	B	Sals D	¾	5.75	23.5	Gem	33x5*	33x5*	Hoo	Fir	....	140							
Signal NF.....	....	Cont J-4	3¾x5	22.5	L	Lng	FS	Strm	G	Sim	Eis	.....	B-Li	.....	A	3	UM	Det	.....	W	.....	½	7.2	.....	Ros	34x5*	34x5*	Bim	Gdy	3575	132							
Stewart.....	990	Lyco	3¾x5	22.5	L	Own	FS	Zen	G	.....	Rm	Rm	Full	.....	U	3	Spic	Det	.....	B	.....	¾	5.1	24.	Gem	34x4½	34x4½	.....	Fir	2700	130							
Stoughton A.....	1790	.....	.....	22.5	L	Own	FS	Strm	G	Wau	Eis	.....	B-Li	B-Li 30	U	3	Ther	Own	Shel 33FA500	W	Shel W-1001	½	6	24.5	Lav	34x5*	34x5*	Roy	Gdy	3300	130							
Transport 15.....	....	Cont N	3¾x5	22.5	L	Mod	FS	Strm	V	.....	Rm	Rm	Full	.....	U	3	Sned	Det	.....	B	.....	¾	5.1	20.4	Lav	32x4½*	32x4½*	Mot	Fir	2950	128							
Triangle AA.....	1285	H-Sp	3½x5	19.6	L	Per	FS	Strm	G	.....	NE	NE	Full	Full LTU 4	U	3	UP	Det	Torb 75	B	Clark B-360	½	6.75	27	Gem	34x4½	34x4½	Nor	Fir	2600	123							
United Highway Spec'l.	....	H-Sp 7000	3½x5	19.6	L	Per	FS	Zen	G	.....	Bos	Bos	Full	Full	U	3	Spic	Det	.....	B	Col	½	5.8	19.9	Lav	32x4½	32x4½	.....	Fir	2500	128							
Watson D.....	1465	Buda WTU	3¾x5 1/8	22.5	L	GO	F	Zen	G	.....	Sim	Dy	B-Li	B-Li 30	U	3	Spic	Shel	Col 5000	W	Tim 6250	½	6.25	20.7	Lav	34x5	34x5	.....	Fir	2900	128							
Wilcox AA.....	1900	Buda WTU	3¾x5 1/8	22.5	L	.....	S	Strm	V	Dup	Bos	.....	B-Li	.....	U	3	Spic	Shel	.....	W	.....	½	7.7	25.8	Gem	35x5*	35x5	.....	.....	3600	130							
Wilson C.....	1350	Cont	3¾x5	22.5	L	Lng	FS	Hol	G	Pier	Eis	.....	B.B.	Det	A	3	Ther	Per	Tim 1250	W	Tim 6352	½	6.2	.....	Lav	34x5*	34x5*	.....	Fir	3100	132							
Winther Delivery Spe'l.	1495	H-Sp 7000	3½x5	19.6	L	Brm	F	Strm	V	.....	Wes	Wes	W-Gr	.....	U	3	Pet	Det	.....	I	.....	D	6.6	21.4	Lav	34x4½	35x5*	Mut	Fir	2700	135							
Wisconsin A.....	1750	Cont J4	3¾x5	22.5	L	Chic	FS	Strm	V	Phar	Bos	Bos	B-Li	B-Li 31	U	3	Spic	Det	Tim	W	Tim 5511	½	6.25	31	Lav	32x4½	32x4½	Bim	Gdy	3000	132							
1¼ Ton																																					
Atlas 25	1495	Buda WTU	3¾x5 1/8	22.5	L	Own	F	Zen	G	.....	AtK	Dy	B.B.	Own	U	3	Ster	IC	Col	W	Own	½	.....	.....	CAS	34x4½*	34x4½*	Sch	Opt	2950	130							
Autocar F.....	2200	Own 2	4¾x4½	18	L	Own	S	Strm	G	.....	.....	.....	Own	Own	A	3	Spic	Del	Own	R	Own	F	8.3	33.2	Ros	34x4	34x6	Hoo	.....	3800	97							
Autocar G.....	2300	Own 2	4¾x4½	18	L	Own	S	Strm	G	.....	.....	.....	Own	Own	A	3	Spic	Del	Own	R	Own	F	8.3	33.2	Ros	34x4	34x6	Hoo	.....	3900	120							
Clinton.....	1980	Buda WTU	3¾x5 1/8	22.5	L	Own	F	Zen	V	.....	RBo	Wes	B-Li	B-Li 30	U	3	M-E	Row	Tim 1250	W	Tim 6250	½	5.6	18.6	Ros	34x5*	34x5*	StM	Fir	3660	150							
Clydesdale 10	....	Cont N	3¾x5	22.5	L	Own	FS	Zen	V	.....	Bos	Bos	B.B.	B-Li 20	U	3	Spic	Stan	Stn 3780	B	Tim 5511	½	6.1	20.4	Ros	34x5	34x5	.....	Fir	3100	138							
Clydesdale 10A.....	....	Cont N	3¾x5	22.5	L	Own	FS	Zen	V	.....	Bos	Bos	B.B.	B-Li 20	U	3	Spic	Stan	Stn 3780	W	Tim 6250	½	6.75	22.5	Ros	34x5	34x5	.....	Fir	3100	138							
Defiance G-2.....	....	Cont N	3¾x5	22.5	L	Per	F	Zen	V	.....	Bos	Bo	B.B.	G-Le	U	3	Spic	Det	Eat 1000	B	Col	½	6.14	.....	Lav	35x5	35x5	St.M	Fir	2900	128							
Defiance GL-2.....	....	Cont N	3¾x5	22.5	L	Per	F	Zen	V	.....	Bos	Bos	B.B.	G-Le	U	3	Spic	Det	Eat 1000	B	Col	½	6.14	.....	Lav	35x5	35x5	St.M	Fir	3050	140							
Denby 31.....	1485	Cont N	3¾x5	22.5	L	Lng	FS	Strm	G	.....	Eis	Rm	Full	.....	U	3	UP	Det	Tim	B	Clark	½	5	20	Ros	34x5	34x5	Mot	Fir	2840	130							
Dependable A.....	1750	Buda MU	3 5/8x5 1/8	21	L	Lng	F	Zen	V	Mon	Spl	AuL	B.B.	.....	U	3	Acm	Per	.....	W	.....	½	6.25	20.55	Ros	35x5*	36x6*	Bim	Fir	4000	134							
Diamond T-O3	....	Hin	3¾x5¼	22.5	L	GO	F	Strm	V	.....	Bos	.....	Covt	.....	U	3	Spic	Math	.....	W	.....	½	6.20	26.06	Gem	36x3½	36x4	.....	.....	3800	132							
Eagle 101.....	1875	Buda MU	3 5/8x5 1/8	22	L	Own	F	Zen	G	Opt	Eis	Bos	Covt	.....	U	3	M-E	Cham	.....	I	.....	D	6.6	24	Ros	34x5	34x5	Stn	Fir	3800	130							
Hurlburt AS.....	1850	Buda WTU	3¾x5 1/8	22.5	L	Own	FS	Zen	G	.....	Eis	AuL	B-Li	.....	U	3	Spic	Per	.....	W	Tim	...	6.1	.....	Ros	34x5*	34x5*	.....	.....	3250	130							
Larabee-Deyo X-2....	1800	Cont 8R	3 5/8x4½	27.3	L	Fed	F	Zen	G	.....	Bos	Bos	B-Li	B-Li 30	U	3	Sned	Shel	Sals B	B	Sals 1480E	¾	5.75	23	Gem	34x5	34x5	Ind	Fir	3350	138							
Master 11.....	....	Buda WTU	3¾x5 1/8	22.5	L	Chic	....	Zen	G	.....	Wes	Wes	Full	Full	U	3	....	Det	Tim	B	Tim	½	5.5	22	Ros	33x5	33x5	StM	.....	3200	132							
Menominee HT.....	2000	Wis CAU	3¾x5	22.5	L	Own	FS	Strm	G	Mon	Eis	Opt	Det	.....	U	3	Spic	Tut	.....	W	.....	½	7.75	28.52	Ros	34x3½	36x5	Stn	Fir	3525	130							
Perfection B.....	1545	Cont N	3¾x5	22.5	L	Own	FS	Zen	V	.....	Rm	Rm	B.B.	Own AAU	U	3	Spic	Own	Tim 1216B	Op	Tim 5511	½	5.6	25.3	Lav	34x4½	34x4½	Bim	Mil	3175	134							
Reo F Speedwagon....	1185	Own	4 1/16x4½	27.2	L	Own	S	John	G	.....	NE	NE	Own	Own	A	3	Own	Pen	Own	B	Own	F	4.7	17.3	Own	34x4½	34x4½*	Pru	Fir	2655	128							
Republic Rapid Transit	1250	Lyco KB	3 5/8x5	21	L	Own	FS	Strm	V	.....	AuL	AuL	Full	.....	U	3	Spic	Math	.....	I	.....	D	5.38	15.06	Jac	33x5	33x5	Mot	Fir	2650	124							
Ruggles 20-R.....	1375	Own	4 x5	25.6	L	Per	FS	Strm	G	.....	Rm	Rm	B-Li	B-Li 30	U	3	Spic	Det	Col 5000	B	Col 52000	¾	5.12	20.48	Jac	34x5*	34x5*	Nor	Fir	2950	128							
Schwartz 20.....	1980	Buda WTU	3¾x5 1/8	22.5	L	Own	F	Zen	V	.....	RBo	Wes	B-Li	B-Li 30	U	3	M-E	Row	Tim 1250	W	Tim 6250	½	5.6	18.6	Ros	34x5*	34x5*	StM	Fir	3660	150							
Service 25.....	....	Buda WTU	3¾x5 1/8	22.5	L	Lng	F	Zen	V	.....	Rm	Rm	B-Li	B-Li 30	U	3	M-E	Shel	Shul 312	B	Eat 1000	½	5.8	22.1	Ros	34x5*	34x5*	Bim	Fir	3300	132							
Standard 75.....	1330	Cont N	3¾x5	22.5	L	Lng	F	Strm	V	.....	Eis	.....	B-Li	B-Li 30	U	3	Spic	Am	Tim 1250	W	Tim 6250	½	5.6	24.3	Ros	33x5*	33x5*	Dis	Fir	3000	134							
Thomart Speed.....	1795	Hin	4 x5¼	25.6	L	Fed	F	Strm	G	.....	Wes	Wes	W-Gr	W-Gr T-38	U	3	....	Stan	Stan 3070F	S	Eat 1000	½	5.13	.....	Ros	34x5*	34x5*	Bim	Fir	3600	134							
U. S. U.....	....	Own	3¾x5 1/8	22.5	L	Lng	F	Strm	V	.....	Bos	Bos	Full	Full SUI	U	3	Bld	Shel	Shul 250	B	Clark B	½	6.25	25	Lav	34x5	34x5	Sch	Fir	3400	138							
Yellow Cab M42-1¼...	1640	Cont V-4	3¾x5	22.5	L	Lng	FS	Zen	G	.....	Bos	.....	B-Li	.....	U	3	Spic	Math	.....	W	.....	½	7.2	24	Gem	35x5*	35x5*	Stn	Fir	2850	130							
1½ Ton																																					
Ace 30.....	....	Mid 412	3 5/8x5	21	H	Mod	F	Zen	V	.....	Eis	Wes	B-Li	B-Li 35	A	4	UM	Math	Tim 1452	W	Tim 6460	½	7.75	41.5	Ros	34x3½	34x5	Sch	Fir	4750	144							
Acme 30.....	....	Cont N	3¾x5	22.5	L	GO	FS	Rayf	V	Dup	Eis	Bos	B.B.	Cott AAU	U	3	Bld	Det	Tim 1452	W	Tim 6352	½	7.2	28.8	Ros	34x3½	34x5	Bim	.....	3406	129							
Armleder 21B.....	2550	Buda CTU	3¾x5¼	22.5	L	Lng	F	Zen	G	.....	Bos	Wes	Full	B-Li LTU	U	3	Spic	Math	Tim 1452	W	Tim 6460	F	7.75	29	Ros	34x3½	34x6	StM	.....	4400	Op							
Armleder 40B.....	2900	Buda ETU	4¼x5½	28.9	L	Lng	F	Zen	G	Phar	Bos	.....	B-Li	B-Li 50	U	4	Spic	Math	Tim 1520	W	Tim 6460	F	7.75	29	Ros	34x3½	34x6	StM	.....	4500	...							
Armleder 40C.....	2900	Cont C-4	4 1/16x5¼	27.2	L	Lng	S	Zen	G	Phar	Bos	.....	B-Li	B-Li 50	U	4	Spic	Math	Tim 1520	W	Tim 6460	F	7.75	29	Ros	34x3½	34x6	StM	.....	4500	Op							
Atco B.....	....	Buda CTU	3¾x5¼	22.5	L	Chic	F	Strm	G	.....	Eis	Wes	Full	.....	U	3	Hart	GC	.....	W	.....	...	7.25	29	Ros	34x5*	36x6*	Smi	Fir	3900	132							
Atco B-1.....	....	Buda CTU	3¾x5¼	22.5	L	Chic	F	Strm	G	.....	Eis	Wes	Full	.....	U	3	Hart	GC	.....	I	.....	D	7	28	Ros	34x5	36x6*	Stn	Fir	4200	132							
Atlas 40	1950	Buda WTU	3¾x5 1/8	22.5	L	Own	F	Zen	G	.....	Spl	Dy	B.B.	Own	U	3	M-E	IC	Col	W	Own	½	.....	.....	Ros	36x6*	36x6*	Sch	Opt	3300	146							
Atterbury 20R	2475	Cont J-4	3¾x5	22.5	L	Own	F	Zen	V	Sim	Eis	.....	Full	Full LTU	U	3	Spic	SP	Tim 1452	W	Tim 6460	¾	7.75	31	Ros	34x4	34x6	Arc	Fir	4500	144							
Autocar F.....	2200	Own 2	4¾x4½	18	L	Own	S	Strm	G	.....	.....	.....	Own	Own	A	3	Spic	Del	Own	R	Own	F	8.3	33.2	Ros	34x4	34x6	Hoo	.....	3800	97							
Autocar G.....	2300	Own 2	4¾x4½	18	L	Own	S	Strm	G	.....	.....	.....	Own	Own	A	3	Spic	Del	Own	R	Own	F	8.3	33.2	Ros	34x4	34x6	Hoo	.....	3900	120							
Available JH.....	2450	Her O	4 x5	25.6	L	Chic	S	Zen	G	Pier	Bos	.....	B-Li	B-Li 30	U	3	M-E	Tut	Tim	W	Tim 6460	½	7	28	Ros	36x3½	36x5	Sch	.....	4000	145							
Bell E.....	2100	Buda	3¾x5¼	22.5	L	Chic	F	Strm	V	Dup	Eis	.....	B.B.	.....	U	3	UP	UP	.....	I	.....	D	8.8	25.7	Gem	35x5*	36x6*	Bim	Fir	3500	136							
Bessemer H2.....	1995	Cont N	3¾x5	22.5	L	Stn	FS	Strm	G	.....	Bos	Bj	B.B.	B-Li 35-449X	A	3	Bld	Per	Shul 350	R	LM 7150	½	.....	.....	Ros	36x3½	36x5	Sch	Fir	3800	144							
Bethlehem KN.....	1385	Own	3½x5	19.6	L	GO	F	Zen	V	.....	Bos	GD	B.B.	Det Dy	U	3	Spic	Math	Stan 3070F	B	Eat 1000	½	6.	18.8	Ros	35x5	35x5	.....	Fir	2650	125							
Brinton.....	2500	Cont N	3¾x5	22.5	L	Bus	F	Strm	G	.....	Bos	.....	B-Li	B-Li 30	U	3	Spic	Tut	Tim 1542	W	Tim 6560	¾	.....	33.6	Ros	34x4	34x5	Sch	.....	3900	138							
Brockway S.....	....	Wis SU	4 x5	25.6	H	Bus	F	Zen	V	Han	Bos	.....	B-Li	B-Li 30	U	3	Spic	Mer	Tim 1452	W	Tim 6460	½	7.75	31.2	Gem	36x4	36x6	Hoo	.....	4000	140							
Chicago C.....	....	Her O	4 x5	25.6	L	Brm	F	Strm	G	.....	Bos	.....	B-Li	B-Li 30	U	3	.....	Math	Tim 1520	R	Huck 15	¾	6.65	25.8	Gem	36x3½	36x5	Opt	.....	4500	144							
Climber A-20.....	1750	H-Sp 7000	3½x5	19.6	L	Chic	FS	Srtm	V	.....	AtK	Wes	Hart	M-P	U	3	Hart	Lah	Torb A	I	Torb A	D	8	36.1	Ros	36x6*	38x7	Roy	Fir	4150	146							
Commerce 14B	....	Cont J-4	3¾x5	22.5	L	Lng	F	Zen	V	.....	Eis	Bos	B-Li	B-Li	A	4	UM	Am	.....	W	Shel W-103	¾	7	37.45	Ros	32x6	32x6	Mot	Fir	4135	146							
Concord A.....	3150	Buda ITU	4 x5½	25.6	L	Bus	F	Zen	G	Mon	Eis	.....	B-Li	.....	U	4	Spic	Per	.....	W	.....	½	8.75	35	Ros	36x3½	36x5	Arc	Fir	5200	140							
Corbitt D-22.....	....	Cont J-4	3¾x5	22.5	L	McC	FS	Strm	V	Sim	Eis	.....	B-Li	B-Li 30	U	3	Hart	Shel	Shel D343	W	Shel W-103	½	7.8	.....	Ros	34x3½	34x5	Bim	Fir	4150	140							
Day-Elder BN.....	....	Cont J-4	3¾x5	22.5	L	Bus	F	Zen	G	.....	Eis	.....	B-Li	B-Li	U	3	Hart	Shel	Col 7018	W	Tim	½	7	28.63	Gem	34x3½	34x5	Jon	Fir	3300	144							
Defiance D 2.....	....	Cont N	3¾x5	22.5	L	Per	F	Zen	V	.....	Bos	Bos	B.B.	G-Li	U	3	Spic	Det	Col	I	Torb	D	8.1	21	Own	35x5*	36x6*	StM	Fir	3200	140							
Diamond T-T.....	....	Hin	3¾x5¼	22.5	L	GO	F	Strm	V	Own	Bos	.....	Covt	.....	U	3	Spic	Math	.....	W	Own	½	18.2	29.9	Gem	36x3½	36x5	.....	.....	4150	144							
Diehl B.....	....	H-Sp 7000	3½x5	19.6	L	.....	FS	Zen	G	.....	Bos	.....	M-E	Durs 02500B	...	3	M-E	Row	Sals 1544E	I	Torb S 327	D	5.3	.....	Ros	.....	.....	Way	.....	2500	120							

TRADE NAME AND MODEL	Chassis Price	ENGINE DETAILS: Make and Model Number (4 cylinder unless otherwise noted.)	Bore and Stroke	N.A.C.C. Horsepower	Valve Arrange't	Radiator (Make)	Lubrication	Carburetor	Fuel Feed	Governor (Make)	Ignition System	Engine Starter	Clutch (Make)	GEARSET: Make and Model Number	Location	Speeds	Universal (Make)	Springs (Make)	FRONT AXLE and Model Number	REAR AXLE: Final Drive	Make and Model Number	Type	Total Gear Reduction in High	Total Gear Reduction in Low	Steering Gear (Make)	TIRES, WHEELS, RIMS: *Pneumatic †Dual ‡Solid — Front	Rear	Wheels (Make)	Rim Equipment	Chassis Weight (Stripped)	Wheelbase
		1			2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18			19			20	21		
1½ Ton—Con'd																															
Dixon	2650	Cont J-4	3¾x5	22.5	L	GO	F	Zen	G	Pier	Bos	.....	Full	Full	U	4	Hart	SF	.....	W	Tim	F	Opt	Opt	Ros	36x3	36x6	StM	.....	4300	145
D-Olt AA	2450	H-Sp 7000	3½x5	19.6	L	GO	S	Zen	V	Dup	RBo	.....	B-Li	B-Li 30	U	4	Spic	SP	Tim 1250	W	Tim 6250	1½	7.75	37.2	Ros	34x4	34x5	.....	.....	4500	168
Duplex GH	....	Buda WTU	3¾x5⅛	22.5	L	Mod	FS	Zen	G	....	Wes	Wes	Covt	Covt	U	3	Pet	Pen	.....	W	Shel	1½	6.5	26	Woh	36x5*	36x5	Mot	Fir	3900	138
Federal S-21	....	Cont J-4	3¾x5	22.5	L	Own	F	Zen	V	Phar	Eis	Rm	B.B.	Own	A	3	Pet	.....	Own	W	Tim 6352	1½	7.2	20.65	Gem	34x5*	36x6*	.....	.....	3900	144
Federal S-22	....	Cont J-4	3¾x5	22.5	L	Own	F	Zen	V	....	Eis	Rm	B.B.	Own	A	3	Pet	.....	Own	W	Tim 6352	1½	7.2	20.65	Gem	34x5*	36x6*	.....	.....	3900	144
Front Drive C	2800	Buda CTU	3¾x5¼	22.5	L	Hoo	F	Zen	V	Pier	Spl	Opt	B.B.	Own FTT	A	3	Own	Tut	Own FD	W	Own D	1½	8	32	Ros	34x5‡	34x4‡	Stn	Opt	3200	144
Garford 25 B	2375	Buda WTU	3¾x5⅛	22.5	L	Own	S	Strm	V	.....	Spl	.....	.....	Own	A	3	Spic	Per	Own	W	Tim 6460	1½	7.75	.....	Ros	36x3½	36x5	.....	.....	4000	135
Gotfredson	2300	Buda GTU	4 x5¼	25.6	L	McC	F	Zen	V	.....	Bos	AtK	B-Li	B-Li 35	U	4	Spic	Am	Tim 1452	W	Tim 6460	1½	6.5	34.8	Gem	36x6*	38x7*	MM	Fir	4000	144
Graham Bros	1325	Dodge	3 7/8x4½	24.1	L	McC	FS	Stew	V	.....	NE	NE	Dod	Dod	U	3	UP	Det	Dod	S	Own B-360	1½	6.28	29.29	Dod	33x4½*	36x6	.....	.....	2625	140
Gramm-Pioneer 15	1750	Cont N	3¾x5	22.5	L	Own	FS	Strm	G	.....	NE	NE	Full	Full	U	3	Own	Per	Col	I	Clark 10	D	7.6	30.4	Ros	36x3½	36x5	Bim	Fir	3660	...
Gramm-Pioneer 65	2250	Cont N	3¾x5	22.5	L	Own	FS	Strm	G	.....	NE	NE	Full	Own	A	3	Own	Per	Col	W	Own 602-8	1½	7.8	28	Ros	36x3½	36x5	Bim	Fir	3860	...
G. W. W. Farm Spec	1585	Wei	3¾x5½	22.5	H	Chic	F	Sheb	G	.....	Del	Del	Full	Full TU 3	U	3	Acm	GC	Shul 350	I	Clark 10	D	7	.....	Woh	35x5	35x5	Roy	Fir	3200	142
Hal-Fur	2350	Hin 400	4 x5½	25.6	L	GO	F	Zen	V	Hin	Apo	Wes	M-E	B-Li 35	U	4	Pet	Pen	Vul 3F	W	Vul 3R	...	7.5	35	Gem	34x5*	38x7*	Smi	Fir	3750	168
Hawkeye K	1645	Buda CTU	3¾x5¼	22.5	L	Idl	FS	Zen	G	Sim	Eis	.....	Full	Full	U	3	Hart	Det	Shul	I	Clark ID	D	7.6	.....	Ros	34x3½	34x5	.....	.....	3750	149
Hug	1350	Buda WTU	3¾x5⅛	22.5	L	Per	F	Zen	G	.....	Bos	.....	Full	Full SU 1	U	3	Bld	Tut	Col 5000	B	Clark BSpec	½	5.5	26.62	Ros	34x5	34x5	Stn	Fir	2900	118
Independent G (Iowa)	2040	Cont J	3¾x5	22.5	L	GO	FS	Strm	V	.....	Bos	.....	Full	.....	U	3	Bld	GC	.....	I	.....	D	8.2	.....	Lav	34x3½	34x5	StM	Fir	3875	142
Indiana 12	....	Wau BUX	3¾x5¼	22.5	L	McC	F	Strm	G	.....	Eis	.....	B.B.	B-Li 35	A	3	Spic	Shel	Shel 33FA500	W	Shel W-1501	1½	7.8	31.2	Woh	34x3½	34x6	Bim	.....	4100	146
International 31	....	Own	3½x5¼	19.6	L	Own	FS	Ens	G	Own	Bos	Own	Own	.....	A	3	Own	.....	.....	I	.....	D	8	26.5	Own	.....	.....	Own	.....	3200	128
Jumbo 155	....	Buda WTU	3¾x5½	22.5	L	Own	F	Zen	G	.....	Eis	NE	Full	Full LTU5	U	3	Bld	SP	Col 7000	B	Clark B-360	F	6.2	25	Jac	36x6*	36x6*	.....	Fir	4170	143
Jumbo 15	....	Buda CTU	3¾x5¼	22.5	L	Own	F	Zen	G	....	NE	NE	Full	Full LTU 5	U	3	Bld	SP	Col 7000	I	Clark ID	D	7.2	29	Jac	36x3½‡	36x5‡	.....	Fir	4530	144
Kalamazoo GI	2100	Cont N	3¾x5	22.5	L	GO	FS	Strm	V	Pier	Eis	Dy	Full	Full	A	4	Bld	Shel	Shel 0343	W	Shel	½	8.5	40.8	Ros	34x4	34x5	Bim	.....	4450	144
Kalamazoo LG	2775	Her O	4 x5	25.6	H	GO	F	Strm	V	Pier	Sim	Sim	Full	Full	A	4	Bld	Shel	Shel 0343	W	Shel	½	8.6	40.8	Ros	36x4	36x7	Smi	.....	5080	144
Kearns N	1650	H-Sp 7000	3½x5	19.6	L	Own	FS	Zen	V	.....	Bos	Dy	Full	.....	U	3	M-E	Shel	.....	I	.....	.....	7.6	30	Lav	34x4	34x6	.....	Fir	3000	136
Kelly-Springfield K34	2700	Own	3¾x5¼	22.5	L	Lng	F	Zen	G	Pier	Eis	Del	B.B.	Cont	A	3	Pet	Per	Own	W	Own	½	8.5	31.2	Gem	36x3½	36x6	StM	.....	4670	Op
Kenworth	....	Buda ITU	4 x5½	25.6	L	Idl	F	Strm	V	Mon	Bos	.....	B.B.	Cott BUA	U	3	Bld	Tut	Shel	W	Shel W-103	½	7.7	31	Ros	36x3½	36x6	Jon	.....	4620	142
Kissel General Utility	1975	Own 40000	3 7/8x5½	24.1	L	McC	S	Strm	V	Pier	Eis	.....	W-Gr	.....	U	3	Spic	Math	.....	W	.....	½	7.8	28.5	Jac	34x3½	34x5	Pru	3656	4100	152
Kleiber A	....	Cont K-4	4 1/8x5¼	27.2	L	Per	FS	Strm	G	Sim	Bos	.....	.....	.....	A	4	Spic	.....	.....	W	.....	½	7.1	37.51	Ros	36x3½	36x6	Smi	.....	5200	143
Larrabee	2400	Cont J-4	3¾x5	22.5	L	R-T	F	Zen	G	Phar	Bos	.....	B-Li	B-Li 30	U	3	Spic	Shel	Shel 33FA500	W	Shel W-1501	½	7.66	31.4	Gem	34x3½	34x5	Hoo	.....	4500	138
Luedinghaus W	2490	Wau BUX	3¾x5¼	22.5	L	Own	FS	Sheb	G	Wau	Spl	.....	B.B.	.....	U	3	Spic	Tut	.....	W	.....	½	8.6	26.6	Lav	34x3½	34x5	StM	.....	4100	144
Maccar L2	....	Cont K4	4 1/8x5¼	27.2	L	Own	F	Strm	V	Pier	Eis	Bos	B-Li	B-Li 35	U	4	Spic	Mer	Tim 1520	W	Tim 6460	½	8.75	46.81	Ros	36x4	36x6	Day	.....	4900	150
Mack AB	3000	Own AB	4 x5	25.6	L	Own	S	Zen	G	Own	Spl	.....	Own	Own	U	4	Spic	Mer	Own	C	Own	D	6.99	37.84	Own	36x4	36x3½‡	.....	.....	5100	Op
Mack AB	3450	Own AB	4 x5	25.6	L	Own	S	Zen	G	Own	Spl	.....	Own	Own	U	4	Spic	Mer	Own	R	Own	F	7.6	36.80	Own	36x4	36x3½†	.....	.....	5300	Op
Mason Road King	....	Her O	4 x5	25.6	L	Fed	F	John	G	....	AuL	AuL	Hoos	.....	A	3	Spic	Arm	Fli	.....	.....	F	.....	.....	Lav	34x5	34x5	Imp	Fir	.....	130
Master 21	....	Buda OU	4½x5½	27.2	L	Chic	F	Zen	V	Pier	Eis	.....	Full	Full	U	3	Spic	Det	Shel	W	Tim	½	Opt	Opt	Ros	34x4	34x6	Pru	.....	4300	142
Maxwell	....	Own	3 5/8x4½	21	L	Own	FS	Stew	G	....	AtK	Rm	Own	.....	U	3	Own	.....	.....	W	.....	½	7.25	34.4	Own	35x5	35x5	Kel	Fir	2385	124
Menominee H	2475	Wis EAU	4 x5	25.6	L	Own	FS	Strm	G	Mon	Eis	Opt	Det	.....	U	3	Spic	Tut	.....	W	.....	½	8.25	30.36	Ros	36x3½	36x5	Stn	Fir	4220	144
Moreland BX	2350	Her O	4 x5	25.6	L	Own	F	Zen	G	....	AuL	AuL	B-Li	B-Li 30	U	3	Pet	US	Tim 1452	W	Tim 6461	½	7	28	Ros	36x3½	36x6	Smi	.....	4125	132
Nelson-LeMoon G-2	....	Cont K-4	4 1/8x5¼	27.2	L	Chic	F	Strm	G	Phar	Bos	Bos	B-Li	B-Li 35	U	3	Own	GC	Tim 1520	W	Tim 6460	½	7	.....	Ros	36x4	36x6	StM	Gdy	3400	Op
Noble A-21	1890	Buda WTU	3¾x5½	22.5	L	Chic	F	Strm	V	....	Eis	Bos	Full	Full LTU 4	U	3	Bld	.....	Shel 33FA500	W	Shel 1501	½	6.50	26	Lav	34x5	34x5	.....	Fir	3700	144
Ogden D	....	Cont N	3¾x5	22.5	L	Chic	FS	Strm	G	Pier	Spl	.....	B-Li	.....	U	3	M-E	Tut	.....	W	.....	½	8.75	.....	Ros	36x3½	36x5	Stn	.....	3400	136
O. K.	2000	Buda ITU	4 x5½	25.6	L	R-T	FS	Zen	V	Pier	Eis	.....	Full	.....	U	3	Hart	Cham	.....	W	.....	½	8.25	27.9	Ros	36x3½	36x5	Bim	.....	4310	146
Parker E-23	2150	Wis SU	4 x5	25.6	L	Own	F	Strm	V	.....	Wes	Wes	B-Li	B-Li 30	U	3	Bld	Tut	Cont 2001	W	Wis 800-HA	½	7.25	29.8	Lav	34x3½	34x6	Bim	.....	3700	140
Rainier R36	2490	Cont J-4	3¾x5	22.5	L	EM	F	Zen	V	Pier	Eis	.....	B-Li	B-Li 30	U	3	Spic	Per	Tim 1520	W	Tim 6460	½	7.75	25.8	Ros	34x3½	34x5	Jon	.....	3900	147
Republic 10-E	1695	Cont N	3¾x5	22.5	L	Own	FS	Strm	V	.....	Bos	.....	Full	.....	U	3	Spic	Math	.....	I	.....	D	6.28	25.12	Jac	34x5*	34x5*	Nor	Fir	3225	124
Rowe CW	3000	Wis CAU	3¾x5	22.5	L	Fed	F	Zen	G	Sim	Bos	.....	B-Li	B-Li 35	U	4	Spic	Shel	Shel 33FA500	W	Shel W-1501	½	6.5	26	Ros	36x6*	36x6*	Hoo	.....	3800	133
Rumely A	2150	Buda CTU	3¾x5¼	22.5	L	Mod	F	Strm	G	Pier	Spl	.....	Full	Full LTU 5	U	3	Bld	Math	Shul 510	W	Shul 1501-W	½	7.8	31.2	Gem	36x3½	36x5	Mot	Gdy	4100	144
Sandow	1895	Cont N	3¾x5	22.5	L	Chic	FS	Strm	V	.....	Eis	.....	Full	Full TU–¾	U	3	Spic	.....	.....	W	Shel 1501-W	½	7.75	.....	Ros	.....	.....	Opt	Fir	3495	138
Sanford W-15	....	Cont N	3¾x5	22.5	L	R-T	S	Strm	V	.....	Con	Dy	B-Li	B-Li 30	U	3	Spic	Shel	Shel 33FA500	W	Shel 1501	½	6.5	26.67	Ros	36x6	36x6	Hoo	Fir	3800	140
Schacht	2500	Wis SU	4 x5	25.6	H	Own	F	Zen	V	.....	Apo	.....	Full	Full	U	4	Bld	Shel	.....	R	Wis	½	7.	33.6	Ros	36x3½	36x7	.....	.....	4400	144
Selden Unit 30	2375	Cont N	3¾x5	22.5	L	Lng	FS	Strm	G	Pier	Eis	.....	B-Li	.....	U	3	Spic	Per	.....	W	.....	½	7	23.31	Lav	34x3½	34x5	Arc	.....	3560	137
Service 33	....	BudaGBU-I	4 x5¼	25.6	L	McC	F	Strm	V	.....	Eis	.....	B.B.	B–Li 35	A	4	Spic	Shel	Shul 350	W	Tim 6352	½	7.2	38.5	Ros	34x3½	34x6	Stn	Opt	4485	146
Signal H	....	Cont K-4	4 1/8x5¼	27.2	L	R-T	FS	Strm	G	Sim	Eis	.....	B-Li	.....	A	4	Spic	Shel	.....	W	.....	½	7.75	31	Ros	34x4	36x6	StM	.....	4760	146
Standard 1½K	1695	Cont N	3¾x5	22.5	L	Lng	F	Strm	V	.....	Eis	.....	B-Li	B-Li 30	U	3	Spic	Am	Tim 1452	W	Tim 6352	½	7.2	31.3	Ros	34x3½	34x5	.....	.....	3466	134
Sterling	3240	Own	4 x5¾	25.6	L	Own	F	Zen	V	Wau	Eis	.....	B-Li	B-Li 35	U	4	Spic	Math	Tim 1452	W	Tim 6460	½	7	37.45	Ros	36x3½	36x5	Pru	.....	4700	142
Stewart 15	....	Buda WTU	3¾x5½	22.5	L	Bus	F	Zen	G	.....	Eis	Dy	Full	.....	U	3	Spic	Det	.....	B	.....	D	6.7	26.8	Ros	35x5*	35x5*	Way	Fir	3200	128
Stewart 9	1870	Cont N	3¾x5	22.5	L	Bus	FS	Zen	V	.....	Eis	.....	Full	.....	U	3	Hart	Det	.....	I	.....	D	7.6	22.8	Gem	34x3½†	34x6	Way	Fir	3440	140
Stoughton B	2150	.....	.....	22.5	L	Own	FS	Strm	G	Wau	Eis	.....	B-Li	B-Li 30	U	3	Ther	Own	Shel 33FA500	W	Shel W-1501	½	7.8	32	Lav	36x3½	36x5	Roy	Gdy	3800	140
Tiffin GW	2100	Cont C-4	4 1/8x5¼	27.2	L	Own	FS	Sheb	G	Pier	Bos	Wes	Full	Full TU3	U	3	Pet	Vul	Shel D-343	W	Shel W-103	½	7.7	23.25	Ros	36x3½	36x5	Smi	.....	3750	135
Tower J	1785	Cont K4	4 1/8x5¼	27.2	L	Own	S	Zen	G	.....	Eis	.....	Full	Full LTU5	U	3	Bld	Det	Tim 1452	W	Tim 6460	½	7.25	29	Ros	35x5*	38x7*	Pru	Fir	4520	142
Traffic Speedboy	1595	Cont N-4	3¾x5	22.5	L	Own	FS	Cart	G	.....	Bos	GD	Covt	Covt MUNC	U	3	Ther	Det	Own	I	Russ 3000-I	D	6.15	22.5	Own	35x5*	35x5*	Day	Fir	3400	128
Transport 25	....	Buda WTU	3¾x5½	22.5	L	Mod	F	Strm	V	.....	Eis	Opt	Full	.....	U	3	Sned	Det	.....	I	.....	.....	7.25	21.75	Jac	34x3½	34x5	Mot	.....	3700	130
Traylor B	2390	Buda WTU	3¾x5½	22.5	L	GO	F	Zen	G	Sim	Spl	.....	Covt	Covt MOSE	U	3	M-E	Mer	Shel 33FA500	W	Shel W-1501	½	.....	.....	Ros	34x3½	34x6	Sch	.....	4000	140
Triangle A	1985	Wau BUX	3¾x5¼	22.5	L	Per	FS	Strm	G	Wau	Eis	.....	Full	Full LTU5	U	3	UP	Det	Col 7007	I	Clark 1-D	D	7.25	29	Gem	34x3½	34x6	Roy	Fir	3750	144
Ultimate A	3200	Buda ITU	4 x5½	25.6	L	Own	F	Strm	G	Pier	Eis	Bos	B-.i	.....	U	4	Spic	Shel	Shel D-370	W	Shel W-103	½	6.5	37.4	Ros	36x3½	36x6	Jon	Fir	4500	140
United Express	....	Her O	4 x5	25.6	L	Per	FS	Zen	G	....	Bos	Bos	B-Li	B-Li	U	3	Spic	.....	.....	B	Col	¾	5.1	20.86	Lav	34x5	34x5	.....	Fir	3050	148
U. S. N.	....	Cont N	3¾x5	22.5	L	Lng	FS	Strm	V	.....	Eis	Opt	Full	Full LTU 4	U	3	Opt	Shel	Shul 350	I	Clark ID	D	7.6	25.3	Lav	36x3½	36x5	Sch	.....	3800	144
Velie 46	1585	Cont N	3¾x5	22.5	L	Own	FS	Strm	G	Mon	Ber	.....	B.B.	Durs	U	3	.....	Math	Col	I	Torb C-2	D	.8	31.2	Ros	36x3½	36x5	Bim	Gdy	3650	133
Wilcox BB	2550	Own	4¼x5	29.9	L	....	S	Strm	G	Dup	Bos	.....	Own	.....	A	4	Own	Shel	.....	R	.....	½	8.25	29.9	Own	36x4	36x5†	.....	.....	4600	135
Wilson F	2270	Cont	3¾x5½	22.5	L	Lng	FS	Hol	G	Pier	Eis	.....	B.B.	Cott A	A	4	Ther	Per	Tim 1520	W	Tim 6460	½	7.75	24	Ros	36x3½	36x5	.....	.....	3800	140
Winther 39	1950	Wis CAU	3¾x5	22.5	L	Brm	F	Strm	G	.....	Eis	Wes	Full	Full TU¾	U	3	Pet	Det	Col	I	Clark	D	7	21	Lav	34x3½	34x5	Own	Fir	3700	140
Winther 430	2550	Wis CAU	3¾x5	22.5	L	Brm	F	Strm	G	.....	Eis	Wes	Full	Full TU¾	U	3	Pet	Det	Own	I	Clark	D	9	36	Lav	32x4	32x4	Own	Fir	4100	132
Wisconsin B	1850	Wau X	4 x5¼	25.6	L	Chic	FS	Strm	V	Phar	Opt	Bos	B-Li	B-Li 31	U	3	Spic	Det	Tim	W	Tim 5511	½	6.25	31.5	Lav	33x5	32x6	Bim	Gdy	3200	136
Witt-Will N	2450	Cont C-4	4½x5¼	27.2	L	Own	FS	Zen	G	Pier	Eis	.....	B-Li	B-Li 35	U	3	Spic	Del	Tim 1520	W	Tim 6460	½	7	30.36	Ros	36x3½	36x4	Arc	Fir	4000	144

2 Ton

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TRADE NAME AND MODEL	Chassis Price	ENGINE DETAILS: Make and Model Number (4 cylinder unless otherwise noted.)	Bore and Stroke	N.A.C.C. Horsepower	Valve Arrange't	Radiator (Make)	Lubrication	Carburetor	Fuel Feed	Governor (Make)	Ignition System	Engine Starter	Clutch (Make)	GEARSET: Make and Model Number	Location	Speeds	Universal (Make)	Springs (Make)	FRONT AXLE and Model Number	REAR AXLE: Final Drive	Make and Model Number	Type	Total Gear Reduction in High	Total Gear Reduction in Low	Steering Gear (Make)	TIRES, WHEELS, RIMS: *Pneumatic †Dual ‡Solid — Front	Rear	Wheels (Make)	Rim Equipment	Chassis Weight (Stripped)	Wheelbase
		1			2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18			19				20	21		
2 Ton—Con'd																															
U. S.-NW 23	....	Buda WTU	3¾x5½	22.5	L	Lng	F	Strm	V	.....	Bos	Opt	Full	Full LTU 5	U	3	Opt	Shel	Shul 350	W	Shel W-103	½	8.75	25.97	Lav	36x4	36x6	Sch	.....	4300	144
Walter N.	3500	Own FU	4 x5¾	25.6	L	Bus	F	Strm	G	.....	Eis	Wes	B-Li	.....	A	4	Own	.....	.....	F			7.25	39	Gem	36x4	36x7	.....	.....	5500	144
White 20	3250	Own GK	3¾x5½	22.5	L	.....	FS	Zen	G	.....	.....	.....	B-Li	Own TBC	A	4	Own	.....	Own	R	Own	½	6.89	32.1	Own	36x4	36x7	.....	.....	4815	168
Wisconsin	2700	Cont K-4	4⅛x5½	27.2	L	.....	FS	Strm	V	Phar	Bos	.....	B-Li	.....	U	4	Spic	Det	Det	W	Tim	½	8.25	41.5	Lav	36x6	38x7	Bim	Gdy	4600	140
Witt-Will P.	2600	Cont C-4	4⅛x5¼	27.2	H	Own	FS	Zen	G	Pier	Eis	.....	B-Li	B-Li 35	U	4	Spic	Del	Tim 1520	W	Tim 6460	½	7.1	.....	Ros	36x3½	36x6	Arc	Fir	4600	168
2½ Ton																															
Acason A-3	2850	Wau	4⅜x5¾	30.6	...	.....	...	Zen	V	Wau	Bos	.....	.....	Cott R	A	4	Bld	Det	Tim 1542-B	W	Tim 6560	F	5.2	43.	Ros	36x4	36x10	Smi	.....	.....	180
Acme 60	....	Cont K-4	4⅛x5¼	27.2	L	GO	F	Zen	V	Dup	Eis	Del	B.B.	Cott RU	U	4	Bld	Det	Tim 1540B	W	Tim 6560	F	9.25	48.10	Ros	36x4	36x7	Bim	.....	4830	152
American	3350	Wis	4 x6	25.6	L	GO	F	Strm	G	Pier	Apo	.....	Det	Cott R-4	U	4	Acm	SP	Sav 20-O	W	Thom H	F	8.33	.....	Ros	36x4	36x7	Ind	.....	5000	158
Armleder HWB	3150	Buda HTU	4¼x5½	28.9	L	Lng	F	Zen	G	Phar	Bos	Wes	B-Li	B-Li 50	U	4	Spic	Math	Tim 1542	W	Tim 6560	F	9.25	49.5	Ros	36x4	36x4†	Ind	.....	5000	148
Armleder HWC	3150	Cont C-4	4⅛x5¼	27.2	L	Lng	S	Zen	G	Phar	Bos	Wes	B-Li	B-Li 50	U	4	Spic	Math	Tim 1542	W	Tim 6560	F	9.25	49.5	Ros	36x4	36x7	StM	.....	5000	148
Atco A	....	Buda	4¼x5½	28.9	L	Chic	F	Strm	G	Pier	Eis	.....	Full	.....	A	4	Hart	Shel	.....	W	.....		8.7	41.6	Ros	36x4	36x7	Smi	.....	4900	150
Atterbury 22C Std	3375	Cont K-4	4⅛x5¼	27.2	L	Own	F	Zen	V	Pier	Eis	.....	B-Li	B-Li 51	A	4	Spic	SP	Tim 1542B	W	Tim 6560	F	9.25	49.48	Gem	36x4	36x4†	Arc	Fir	5670	156
Atterbury 22C LWB	3475	Cont K-4	4⅛x5¼	27.2	L	Own	F	Zen	V	Pier	Eis	.....	B-Li	B-Li 51	A	4	Spic	SP	Tim 1542B	W	Tim 6560	F	9.25	49.48	Gem	36x4	36x4†	Arc	Fir	5670	180
Autocar H	3100	Own	4 x5½	25.6	L	Own	S	Strm	G	Phar	....	.....	Own	Own	A	4	Spic	Del	Own	R	Own	F	7.72	46.3	Ros	34x5	36x7	Hoo	.....	5500	114
Autocar K	3200	Own	4 x5½	25.6	L	Own	S	Strm	G	Phar	....	.....	Own	Own	A	4	Spic	Del	Own	R	Own	F	7.72	46.3	Ros	33x5	36x7	Hoo	.....	5600	138
Available JH	3160	Her O	4 x5	25.6	L	Chic	FS	Zen	V	Pier	Bos	.....	B-Li	B-Li 35	A	4	M-E	Tut	Tim	W	Tim 6560	F	8.5	40.3	Ros	36x4	36x8	Sch	.....	4750	152
Bell O	2550	Buda ETU	4¼x5½	28.9	L	Chic	F	Strm	V	Dup	Eis	.....	B.B.	.....	U	3	UP	Det	.....	I	.....	D	8	38.4	Gem	34x4	34x7	Bim	Fir	4200	146
Bessemer J2	2895	Cont C-2	4⅛x5¼	27.2	L	Stn	FS	Strm	G	Pier	Bos	.....	B.B.	B-Li 50	A	4	Bld	Per	Shul 510	R	LM 7250	½	.....	.....	Ros	36x4	36x4†	Fir	Sch	4800	158
Bethlehem GN	2185	Own	4 x5¼	25.6	L	GO	F	Zen	V	Pier	Bos	GD	B.B.	Det Dy	U	3	UP	Math	Shel 33FA500	R	Wis 60A	½	7.75	24.8	Lav	34x4	34x6	.....	.....	4100	138
Betz	2985	D-3	4¼x5½	29	L	Chic	F	Zen	G	Mon	Bos	.....	B-Li	B-Li 35	U	4	Pet	Mar	Tim 1540B	W	Tim 6560	F	.....	.....	Ros	36x4	36x8	Stn	.....	5250	160
Brinton D	2975	Cont C-4	4⅛x5¼	27.2	L	Chic	F	Strm	G	Pier	Bos	.....	B-Li	.....	U	3	Spic	Tut	.....	W	.....	F	.....	33.6	Ros	36x4	36x8	Smi	.....	4900	150
Brockway K	....	Cont K-4	4⅛x5¼	27.2	L	Bus	F	Strm	V	Phar	Eis	.....	B-Li	B-Li 35	A	4	Spic	Mer	Tim 1542	W	Tim 6560	F	7.75	41.5	Gem	36x4	36x8	Hoo	.....	5260	153
Chicago C	....	Her O	4 x5	25.6	L	Brm	F	Strm	G	Sim	Bos	.....	B-Li	B-Li 35	U	4	Pet	Math	Tim 1542	R	Huck 25	F	7.36	34	Gem	36x4	36x7†	Opt	Stn	5200	156
Clydesdale 8	....	Cont K-4	4⅛x5¼	22.5	L	Own	F	Zen	V	Own	Bos	.....	B-Li	B-Li 35	A	4	Spic	Stan	Tim 1542B	W	Tim 6460	½	7.75	41.5	Ros	36x4	36x7	.....	.....	.....	156
Commerce 25B	....	Cont K-4	4⅛x5¼	27.2	L	Lng	F	Zen	V	.....	Eis	Bos	B-Li	B-Li	A	4	Spic	Am	.....	W	Tim	F	7.75	41.46	Ros	36x6	40x8	Mot	Fir	5200	156
Concord B	3600	Buda HTU	4¼x5½	28.9	L	Bus	F	Zen	G	Mon	Eis	.....	B-Li	.....	U	4	Spic	Per	.....	W	.....	F	9.25	37	Ros	36x4	36x8	Arc	Fir	5450	150
Corbitt B-22	....	Cont K-4	4⅛x5¼	27.2	L	McC	FS	Strm	V	Sim	Eis	.....	B-Li	B-Li 50	U	4	Hart	Shel	Shel 3FA10	W	Shel W-21	½	8.75	46.81	Ros	36x4	36x7	Bim	Fir	5325	152
Day Elder CN	....	Buda HTU	4¼x5½	28.9	L	Bus	F	Zen	G	Mon	Eis	.....	B-Li	B-Li	U	4	Hart	Shel	Shel D-343	W	Tim	F	8.5	45.48	Gem	36x4	36x8	Jon	Fir	4600	150
Dependable D	2650	Buda ITU	4 x5½	25.6	L	Lng	F	Zen	V	Mon	Spl	AuL	Full	Full TU4	U	3	Acm	Per	Shul 350	W	Wis 800	½	8.5	35.75	Ros	36x4	36x7	Bim	Fir	5300	144
Diamond T–U2	....	Hin	4 x5¼	25.6	L	GO	F	Strm	V	Own	Bos	.....	Covt	.....	U	4	Spic	Math	.....	W	.....	F	7.8	36.81	Gem	36x4	36x8	.....	.....	5250	160
Dixon	3250	Cont K-4	4⅛x5¼	27.2	L	GO	F	Zen	G	Pier	Bos	.....	Full	Full	U	4	Hart	SP	.....	W	Tim	F	Opt	Opt	Ros	36x4	36x8	Smi	.....	5800	154
D-Olt C	3250	Mid 402	4⅛x5¼	27.2	H	GO	F	Zen	G	Dup	RBo	.....	B-Li	.....	U	3	Spic	SP	.....	W	.....		8.5	.....	Ros	36x5	36x4†	.....	.....	5350	168
Duplex AC	....	Hin 400	4 x5¼	25.6	L	Mod	...	.....	V	Opt	Eis	Opt	B-Li	B-Li	U	4	Pet	Pen	.....	W	Vul	F	8.50	45.4	Ros	34x5†	36x8	Mot	Fir	5500	160
Duplex AB	....	Hin 400	4 x5¼	25.6	L	Mod	...	.....	V	.....	Wes	Wes	B-Li	B-Li	U	4	Pet	Pen	.....	W	Shel	½	6.50	34.7	Ros	35x5*	38x7	Mot	Fir	4900	173
Facto	2695	Buda EBU	4¼x5½	28.9	L	Bus	F	Zen	G	Pier	Apo	.....	Full	Full GU	A	4	Bld	SP	.....	W	Tim 6560	F	7.75	33.9	Ros	36x4	36x8	Smi	Fir	5800	155
Federal U-2	....	Cont K-4	4⅛x5¼	27.2	L	Own	F	Zen	V	Phar	Eis	Rm	B.B.	Det	A	4	Spic	.....	Own	W	Tim 6560	F	7.75	45.6	Gem	36x4	36x4†	.....	.....	5300	157
Garford 70 H	3250	Buda HTU	4¼x5½	28.9	L	Own	F	Strm	G	Sim	Spl	.....	.....	Own	A	4	Spic	Per	Tim 1542B	W	Tim 6560	F	7.75	.....	Ros	36x4	36x8	.....	.....	5300	144
Gary J	3050	Buda HTU	4¼x5½	28.9	L	Chic	FS	Zen	V	McC	Eis	.....	Full	.....	U	4	Spic	Math	.....	W	.....	F	8.5	41	Ros	36x4	36x7	Pru	Gdy	5500	148
Gotfredson	3000	Buda ETU	4¼x5½	28.9	L	McC	F	Zen	V	Phar	Bos	.....	B-Li	B-Li 51	A	4	Spic	Am	Tim 1520	..	Tim 6560	F	9.25	49.3	Gem	36x4	36x8‡	Day	.....	6325	152
Gramm-Pioneer 125	2900	Cont K4	4⅛x5¼	27.2	L	Own	F	Strm	G	Sim	NE	NE	Full	Own	A	4	Own	Per	Col	W	Shel	½	7.7	36.7	Ros	36x4	36x7	Bim	.....	4910	...
Hal Fur B	3000	Hin HA 500	4¼x5½	28.9	L	GO	F	Zen	V	Hin	Bos	Wes	B.B.	Own 55	A	4	Pet	Per	Tim 1540	W	Tim 6560	F	7.75	57.4	Gem	36x6	Opt	Smi	Fir	5000	Op
Harvey WFB	2950	Buda ETU	4¼x5½	28.9	L	Own	F	Strm	G	McC	Spl	.....	Full	B-Li 50	A	4	Spic	Bea	Shel D-370	W	Shel W-21	½	7.75	37.5	Ros	36x4	36x8	Smi	.....	6800	160
Hawkeye M	2145	Buda HU	4¼x5½	28.9	L	Brm	...	Zen	G	Sim	Eis	.....	Full	Full	U	4	Hart	Det	Shul	I	Clark 2D	D	18.	.....	Ros	36x4	36x6	.....	.....	4500	149
Hawkeye ML	....	Buda HU	4¼x5½	28.9	L	Brm	...	Zen	G	Sim	Eis	.....	Full	Full	U	4	Hart	Det	Shul	I	Clark 2D	D	18.	.....	Ros	36x4	36x6	.....	.....	.....	160
Hendrickson N	3200	Buda ETU	4¼x5½	28.9	L	Chic	F	Strm	G	McC	Spl	.....	Full	Full G-7	A	4	Ther	Mar	Tim 1542	W	Tim 6560	F	7.7	37.2	Ros	36x4	36x7	Stn	.....	.....	Op
Hewitt-Ludlow	....	Buda HU	4¼x5½	28.9	L	Mod	F	Strm	V	.....	Bos	.....	.....	.....	U	4	Spic	....	Shel	W	Shel	½	.....	.....	Ros	36x4	36x8‡	.....	.....	.....	156
Independent HI (Iowa)	2940	Cont K-4	4⅛x5¼	27.2	L	Chic	FS	Strm	V	.....	Bos	.....	Full	.....	U	4	Bld	Tut	.....	I	.....	D	10	.....	Lav	36x4	36x7	StM	Fir	4950	150
Indiana 25	....	Own 38	4⅛x5½	27.2	L	McC	F	Strm	G	Pier	Eis	.....	B.B.	B-Li 51	A	4	Spic	Shel	Shel D-370	W	Shel W-21	½	7.75	41.3	Woh	36x4	36x8	Bim	.....	5850	156
International 52-Bus	....	Own	4¼x5	28.9	H	Own	FS	Ens	V	Own	Spl	Own	Own	.....	A	4	Own	.....	.....	I	.....	D	4.85	25	Own	.....	.....	Own	.....	5515	190
Jumbo 25	....	Buda HU	4¼x5½	28.9	L	Own	F	Zen	V	Sim	Eis	.....	Full	Full GU	U	4	Bld	SP	Shul 510	I	Clark 2-D	D	9	43.5	Jac	36x4‡	36x8‡	.....	Fir	5190	152
Kalamazoo HD	3500	Wis UAU	4¼x6	28.9	L	GO	F	Strm	V	Pier	Bos	Dy	Full	Full	A	4	Bld	Shel	Shel D-343	I	Shel	½	9.5	57	Ros	36x5	36x10	Smi	.....	6720	144
Kalamazoo NH	3350	Wis TAU	4 x6	25.6	L	GO	F	Strm	V	Pier	Bos	Dy	Full	Full	A	4	Bld	Shel	Shel D-343	M	Shel	½	8.75	42.8	Ros	36x5	36x10	Smi	.....	6400	160
Kelly-Springfield K35	2900	Own	3¾x5½	22.5	L	Lng	F	Zen	G	Pier	Eis	Del	Own	Covt	A	3	....	Per	Own	C	Own	D	10.6	35.11	Gem	36x4	36x4†	StM	.....	4850	Op
Kelly-Springfield K38	2900	Own	3¾x5½	22.5	L	Lng	F	Zen	G	Pier	Eis	Del	B.B.	Covt	A	4	Pet	Per	Own	W	Own	½	11.6	35.03	Gem	36x4	36x4†	StM	.....	5300	Op
Kelly-Springfield K–39	....	Own	3 7/8x5½	24.1	L	Lng	F	Zen	G	Pier	Eir	Del	B.B.	B-Li 51	A	4	Pet	Per	Own	I	Clark 2H	D	9	48.15	Gem	36x4	36x4†	Cla	Fir	5700	150
Kenworth K	....	Buda HTU	4¼x5½	28.9	L	Idl	F	Strm	V	Mon	Bos	.....	B.B.	Cott RU	U	4	Bld	Tut	Shel D-370	W	Shel W-21	..	8.75	45.22	Ros	36x4	36x8	Smi	.....	5270	150
Kissel Freighter	2875	Own 50000*	4¼x5½	28.9	L	McC	S	Strm	V	Pier	Eis	.....	W-Gr	.....	A	4	Spic	....	.....	W	.....	F	8.5	42.5	Jac	36x4	36x8	Pru	.....	5100	168
Kleiber B	....	Cont L-4	4½x5½	32.4	L	RT	FS	Strm	G	Sim	Bos	.....	.....	.....	A	4	Spic	....	.....	W	.....	F	7.75	37.51	Ros	36x5	36x8	Smi	.....	6000	160
Lange E	3450	Cont K-4	4⅛x5¼	27.2	L	Own	F	Strm	V	.....	Bos	.....	B-Li	.....	A	4	Pet	SP	Tim 1630B	W	Tim 6560	F	9.25	49.5	Ros	36x4	36x7	Hoo	Opt	5800	Op
Larrabee K-5	3450	Cont L-4	4½x5½	32.4	L	R-T	F	Zen	G	Phar	Bos	.....	B-Li	B-Li 51	A	4	Spic	Shel	Shel D-370	W	Shel W-22	½	7.6	47	Ros	36x4	36x8	Smi	.....	5700	156
Mack AB	3400	Own AB	4¼x5	28.9	L	Own	S	Zen	G	Own	Spl	.....	Own	Own	U	4	Spic	Mer	Own	C	Own	D	8.98	43.5	Own	36x4	36x4†	.....	.....	5400	Op
Mack AB	3850	Own	4¼x5	28.9	L	Own	S	Zen	G	Own	Spl	.....	Own	Own	U	4	Spic	Mer	Own	R	Own	F	9.25	44.9	Own	36x4	36x4†	.....	.....	5600	Op
Master 41	....	Buda ETU	4¼x5½	28.9	L	Chic	F	Zen	V	Pier	Eis	.....	Full	Full	U	4	Spic	Det	Tim	W	Tim	F	Opt	Opt	Ros	34x4	36x8	Pru	.....	5100	154
Nelson & LeMoon	....	Cont K-4	4⅛x5¼	27.2	L	Chic	F	Strm	G	Phar	Bos	Bos	B-Li	B-Li 50	A	4	Spic	Math	Tim 1542	B	Tim 6566	F	7.7	.....	Ros	36x4	36x7	StM	Gdy	4100	Op
Netco HL	3500	Cont L-4	4½x5½	32.4	L	E-M	F	Zen	V	Phar	Eis	.....	B-Li	B-Li 55	A	4	Spic	Math	Tim 1542 B	W	Tim 6560	F	7.75	41.46	Gem	36x4	36x8	Arc	Opt	5750	168
Niles H	3250	Buda ETU	4¼x5½	28.9	L	Mod	S	Strm	G	.....	Eis	Bos	B-Li	B-Li 50	U	4	Pet	PS	Tim 1520B	W	Tim 6560	F	9.25	37	Gem	36x6*	40x8*	Hoo	Fir	4935	140
Noble D-51	3150	Buda HTU	4¼x5½	27.2	L	Chic	F	Strm	V	Pier	Eis	Wes	Full	Full G-7	A	4	M-E	.....	Shel D-370	W	Shel W-21	½	8.75	42	Lav	36x4	36x8	Bim	Fir	5700	162
Ogden E2	....	Cont K-4	4⅛x5¼	27.2	L	Chic	FS	Zen	G	Pier	Spl	.....	B-Li	.....	A	4	M-E	Tut	.....	W	.....	½	8.7	.....	Ros	36x4	36x8	Stn	.....	5600	160
O. K.	2900	Buda HTU	4¼x5½	28.9	L	RT	FS	Zen	V	Pier	Eis	.....	Full	.....	U	4	Hart	Cham	.....	W	.....	½	9.66	46	Ros	36x4	36x8	Bim	.....	5350	150
Old Reliable B	3500	Wis UAU	4¼x6	28.9	L	Chic	F	Strm	V	Phar	Bos	.....	Full	Full G	A	4	Pet	Shel	Shel D-370	W	Shel W-21	½	8.75	42	Ros	34x4	36x4†	Sch	.....	6000	Op

| | | |

TRADE NAME AND MODEL	Chassis Price	ENGINE DETAILS: Make and Model Number (4 cylinder unless otherwise noted.)	Bore and Stroke	N.A.C.C. Horsepower	Valve Arrange't	Radiator (Make)	Lubrication	Carburetor	Fuel Feed	Governor (Make)	Ignition System	Engine Starter	Clutch (Make)	GEARSET: Make and Model Number	Location	Speeds	Universal (Make)	Springs (Make)	FRONT AXLE and Model Number	REAR AXLE: Final Drive	Make and Model Number	Type	Total Gear Reduction in High	Total Gear Reduction in Low	Steering Gear (Make)	TIRES, WHEELS, RIMS (*Pneumatic †Dual ‡Solid): Front	Rear	Wheels (Make)	Rim Equipment	Chassis Weight (Stripped)	Wheelbase
		1			2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18			19			20	21		
3½ Ton—Con'd																															
Armleder KWB	4200	Buda YTU	4½x6	32.4	L	Own	F	Zen	G	Phar	Bos	.....	B-Li	B-Li 50	U	4	Spic	Math	Tim 1630B	W	Tim 6660	F	10.33	55.25	Ros	36x5	36x5†	StM	.....	6900	156
Armleder KWC	4200	Cont E-4	4½x5½	32.4	L	Own	S	Zen	G	Phar	Bos	.....	B-Li	B-Li 50	U	4	Spic	Math	Tim 1630B	W	Tim 6660	F	10.33	55.25	Ros	36x5	36x5†	StM	.....	6900	156
Atterbury 22DX Short	4375	Cont L-4	4½x5½	32.4	L	Own	F	Zen	V	Pier	Eis	.....	B-Li	B-Li 55	A	4	Spic	SP	Tim 1630B	W	Tim 6666	F	10.33	55.26	Gem	36x5	40x6†	Arc	.....	7500	150
Atterbury 22D Std	4275	Cont L-4	4½x5½	32.4	L	Own	F	Zen	V	Pier	Eis	.....	B-Li	B-Li 55	A	4	Spic	SP	Tim 1630B	W	Tim 6666	F	10.33	55.26	Gem	36x5	40x6†	Arc	.....	7500	174
Atterbury 22D LWB	4375	Cont L-4	4½x5½	32.4	L	Own	F	Zen	V	Pier	Eis	.....	B-Li	B-Li 55	A	4	Spic	SP	Tim 1630B	W	Tim 6666	F	10.33	55.26	Gem	36x5	40x6†	Arc	.....	7500	198
Available H	4175	Her MU-3	4½x5½	32.4	L	Chic	FS	Strm	V	Pier	Bos	.....	B-Li	B-Li 50	A	4	M-E	Tut	Tim	W	Tim 6666	F	10.33	49.99	Ros	36x5	40x5†	Sch	.....	6500	176
Bethlehem HN	2985	Own	4 x5¼	25.6	L	GO	F	Zen	V	Pier	Bos	GD	Full	Full GU-7	U	4	UP	Math	Shel D-343	R	Wis 88E	½	8.67	41.56	Lav	36x4	36x8	.....	.....	5250	145
Brockway R	....	Cont L-4	4½x5½	32.4	L	Bus	F	Strm	G	Sim	Bos	.....	B-Li	B-Li 55-4	A	4	Pet	Math	Tim 1630	R	Huck 35	F	9.33	50	Gem	36x5	36x10	Opt	.....	7200	170
Chicago C	....	Her MU-3	4½x5½	32.4	L	Brm	FS	Strm	G	Sim	Bos	.....	B-Li	B-Li 50	A	4	Spic	Stan	Tim 1542B	W	Tim 6560	F	9.25	49.5	Ros	36x5	36x5†	.....	.....	.....	163
Clydesdale 6	....	Cont L-4	4½x5½	32.4	L	Own	F	Zen	V	Own	Bos	.....	B-Li	B-Li 50	A	4	Hart	Shel	Col 8513	W	Tim	F	8.75	46.81	Gem	36x5	36x5†	Jon	Fir	5600	165
Day-Elder FN	....	Cont L-4	4½x5½	32.4	L	Bus	F	Zen	G	Mon	Eis	.....	B-Li	B-Li 50	U	4	Hart	Shel	Col 8513	W	Tim	F	8.75	46.81	Gem	36x5	36x5†	Jon	Fir	5600	165
Dependable G	3550	Buda YTU	4½x6	32.4	L	Lng	F	Zen	V	Mon	Spl	AuL	Full	.....	A	4	Acm	Per	.....	W	.....	½	10	47.61	Ros	36x6	36x10	Bim	Fir	6000	165
Diamond T–K	....	Hin	4¼x5½	28.9	L	GO	F	Strm	V	Own	Bos	.....	Covt	.....	A	4	Spic	Math	.....	W	.....	F	8.8	44.36	Gem	36x5	36x5†	.....	.....	7250	170
Dixon	4070	Cont L-4	4½x5½	32.4	L	GO	FS	Zen	G	Pier	Bos	.....	Full	Full HU	U	4	Hart	SP	Tim 1630B	W	Tim 6666	F	Opt	Opt	Ros	36x5	36x10	Smi	.....	7100	160
Dorris K7	4400	Own	4¼x5½	28.9	H	McC	F	Strm	G	Own	Bos	Wes	Own	W-Gr T53	A	4	Spic	Row	Tim 1630	W	Tim 6660	F	10.33	51.5	Ros	36x5	36x10	Smi	Fir	6750	194
Duplex E (f. w. d.)	....	Buda ETU	4¼x5½	28.9	L	Lng	FS	Sheb	V	Dup	Eis	.....	B-Li	B-Li	U	4	Pet	Pen	.....	I	Own	F	8	64	Woh	36x8*	36x8	Mot	Fir	6000	130
Gary KT	3950	Buda YTU	4½x6	32.4	L	Chic	F	Zen	V	McC	Eis	.....	B-Li	B-Li	A	4	Spic	Math	Tim 1630-B	W	Tim 6666	F	10.33	50	Ros	36x5	40x10	Pru	.....	8100	162
G. M. C. K-71A	....	Own	4½x6	32.4	L	Own	F	Mar	G	Own	Sim	Opt	Own	Own	A	7	Own	Det	Tim 1630	W	Tim 6660	F	8.75	75.2	Own	36x5	40x5†	Own	.....	7945	163
G. M. C. K-71B	....	Own	4½x6	32.4	L	Own	F	Mar	G	Own	Sim	Opt	Own	Own	A	7	Own	Det	Tim 1630	W	Tim 6660	F	8.75	75.2	Own	36x5	40x5†	Own	.....	8070	187
G. M. C. K-71T	....	Own	4½x6	32.4	L	Own	F	Mar	G	Own	Sim	Opt	Own	Own	A	7	Own	Det	Tim 1630	W	Tim 6660	F	10.33	88.83	Own	36x5	40x12	Own	.....	7885	138
Gramm-Pioneer 75P	4225	Hin HA 200	4½x5½	32.4	L	Own	F	Strm	G	Hin	Eis	NE	Own	.....	A	4	Own	Per	.....	W	Shel W-21	½	9.5	45	Ros	36x6*	42x9*	Smi	.....	6000	...
Hal-Fur F	4000	Hin AA 200	4½x5½	32.4	H	GO	F	Zen	V	Hin	Bos	Wes	B.B.	Own 60	A	4	Pet	Mer	Tim 1630	W	Tim 6660	F	10.33	72	Gem	36x5	40x12	Smi	.....	6500	180
Harvey WHB	3950	Buda YTU	4½x6	32.4	L	Own	F	Strm	G	McC	Spl	.....	Full	B-Li 60	A	4	Spic	Bea	Shel 4FA20	W	Shel W-32	½	8.75	46.8	Ros	36x6	36x12	Smi	.....	7600	160
Hawkeye N	....	Buda YTU	4½x6	32.4	L	....	F	Zen	..	Sim	Eis	.....	Full	Cott	A	4	.....	.....	.....	...	Clark	D	.....	.....	.....	36x5†	36x10†	.....	.....	.....	180
Hendrickson M	3725	Buda EBU	4¼x5½	28.9	L	Chic	F	Strm	G	McC	Spl	.....	Full	Full G-7	A	4	Ther	Mar	Tim 1630	W	Tim 6666	F	10	49.6	Ros	36x5	36x5	Stn	.....	.....	Op
Hewitt-Ludlow	....	Buda HU	4¼x5½	28.9	L	Mod	F	Strm	V	....	Bos	.....	B-Li	.....	A	4	Spic	.....	Shel	W	Shel	½	.....	.....	Ros	36x5‡	36x5†	Stn	.....	.....	150
Indiana 35	....	Own 40	4⅜x5½	30.6	L	McC	F	Strm	G	Pier	Eis	.....	B.B.	B-Li 55	A	4	Spic	Shel	Shel FA20	W	Shel W-31	½	10.2	54.84	Woh	36x5	36x10	Smi	.....	7050	160
Jackson B	3850	Cont E-4	4½x5½	32.4	L	Lng	FS	Strm	V	Pier	Eis	Dy	B.B.	.....	A	4	Spic	Per	.....	B	.....	F	9.2	43.49	Ros	36x7	36x7	.....	.....	7400	166
Jumbo 35	....	Buda YTU	4½x6	32.4	L	Own	F	Zen	G	Sim	Eis	.....	Full	Full GU-8	U	4	Spic	SP	Stn 507	I	Clark 3 D	D	9	43.5	Jac	36x5‡	36x10‡	.....	Fir	7510	165
Kalamazoo SK	4000	Wis UAU	4¼x6	28.9	L	GO	F	Strm	V	Pier	Bos	Dy	Full	Full	A	4	Bld	Shel	Shel 4FA20	W	Shel	½	10.25	61.5	Ros	36x5	36x12	Smi	.....	7520	100
Kelly-Springfield K-40	3900	Own	4½x6½	32.4	T	Lng	F	Zen	G	Pier	Eis	Del	B.B.	Covt	A	3	....	Per	Own	C	Own	D	10.49	31.69	Gem	36x5	40x5†	StM	.....	7730	Op
Kelly-Springfield K-41	3900	Own	4½x6½	32.4	T	Lng	F	Zen	G	Pier	Eis	Del	B.B.	Covt	A	4	Pet	Per	Own	I	Clark	D	10	50.7	Gem	36x6	36x10	Cla	.....	7800	Op
Kelly-Springfield K-42	3900	Own	4½x6½	32.4	T	Lng	F	Zen	G	Pier	Eis	Del	B.B.	Covt	A	4	Pet	Per	Own	W	Stn	½	10.25	51.97	Gem	36x5	40x5	Smi	.....	8500	Op
Kenworth L	....	Buda YTU	4½x6	32.4	L	Idl	F	Strm	V	Mon	Bos	.....	B.B.	Cott S	A	4	Bld	Tut	Shel W-32	W	Shel W-32	..	10.2	53.3	Ros	36x5	40x12	Smi	.....	8050	170
Kleiber C	4470	Cont L-4	4½x5½	32.4	L	RT	FS	Strm	G	Sim	Bos	.....	.....	.....	A	4	Spic	.....	.....	W	.....	F	8.75	42.35	Ros	36x5	36x10	Smi	.....	7200	163
Larrabee L-4	4000	Cont L-4	4½x5½	32.4	L	R-T	S	Zen	G	Phar	Bos	.....	B-Li	B-Li 55	A	4	Spic	Mer	Shel 4FA20	W	Shel W-31	½	10.25	55	Ros	36x5	36x10	Smi	.....	7600	186
Mack AC	4950	Own AC	5 x6	40	L	Own	S	Zen	G	Own	Spl	.....	Own	Own	J	4	Spic	Mer	Own	C	Own	D	7.54	48.37	Own	36x5	40x5†	.....	.....	9200	Op
Master 51	....	Buda YTU	4½x6	32.4	L	Chic	F	Strm	V	Pier	Eis	.....	B-Li	B-Li	A	4	Spic	Det	Tim	W	Tim	F	Opt	Opt	Ros	36x5	40x10	Smi	.....	8100	158
Menominee G	3800	Wis VAU	4½x6	32.4	L	Own	FS	Strm	G	Mon	Eis	Opt	Det	.....	A	4	Spic	Tut	.....	W	.....	F	10.3	53.71	Ros	36x5	36x10	Smi	Fir	6750	160
Nelson & LeMoon G 4	....	Cont L-4	4½x5½	32.4	L	Chic	F	Strm	G	Phar	Bos	Bos	B-Li	B-Li 50	U	4	Own	GC	Tim 1630	W	Tim 6666	F	8.7	42	Ros	36x5	36x5†	StM	Gdy	6000	Op
Noble E-71	3850	Buda YTU	4½x6	32.4	L	Chic	F	Strm	V	Pier	Eis	Wes	Full	W Gr T 53	A	4	M-E	.....	Shel 4FA20	W	Shel W-30	½	8.75	44	Lav	36x5	36x10	Bim	Fir	7200	182
Northway B3	4200	Own	4 x6	25.6	H	GO	F	Strm	V	Pier	Wag	Bj	Full	Full GU8	U	4	Spic	Per	Shel 4FA20	W	Shel W30	½	10	49.2	Ros	36x5	40x5†	Cla	Fir	7700	Op
Ogden F	....	Cont L-4	4½x5½	32.4	L	Chic	F	Zen	G	Pier	Spl	.....	B-Li	.....	A	4	M-E	Tut	.....	W	.....	F	10.33	.....	Ros	36x5	40x10	Stn	.....	7300	178
O.K	3975	Buda YTU	4½x6	32.4	L	R-T	FS	Zen	V	Pier	Eis	.....	Full	.....	A	4	Hart	Cham	.....	W	.....	½	10	60	Ros	36x5*	36x5†	Bim	.....	6350	164
Old Reliable C	4250	Wis VAU	4½x6	32.4	L	Chic	F	Strm	V	Phar	Bos	.....	Full	Full H	A	4	Pet	Shel	Shel 4FA20	W	Shel W-32	½	8.75	55.1	Ros	36x5	36x12	Sch	.....	7000	Op
Oneida D	4050	Hin 200	4½x5½	33.5	L	Mod	F	Strm	V	Hin	Apo	.....	Full	.....	A	4	Pet	Math	.....	W	.....	F	10.33	49.6	Ros	36x5	36x10	Smi	.....	7700	170
Packard ED	4100	Own	4½x5½	32.4	L	....	F	Own	P	Own	Spl	Bj	Own	Own	A	4	Spic	.....	Own	W	Own	F	9	41.3	Own	36x5	36x5	.....	.....	7350	156
Parker J-20	4300	Wis VAU	4½x6	32.4	L	Own	F	Strm	V	Pier	Eis	Wes	B-Li	Full H	A	4	Bld	.....	Shul 610	W	Own	F	8.75	43.6	Ros	36x5	40x5†	Smi	.....	6550	160
Perfection E	2975	Cont K-4	4½x5¼	27.2	L	Own	FS	Zen	V	Phar	Eis	Rm	B.B.	Own RU	A	4	Spic	Own	Tim 1630B	W	Tim 6560	F	9.5	63	Lav	38x7	42x9	Bim	Fir	5700	138
Pierce Arrow W-2	4350	Own	4½x6¾	32.4	T	Own	F	Strm	..	Own	Del	.....	Own	Own	A	4	Spic	SP	Own	W	Own	F	8	49	....	36x5	36x5†	Day	.....	8350	162
Pittsburgher D	3800	Own	4½x5¼	27.2	T	GO	F	Strm	V	.....	Bos	.....	B-Li	B-Li 50	U	4	Spic	.....	Vul 4F	W	Vul 4R	..	9.5	50.82	Ros	36x5	36x10	Smi	.....	6600	162
Power C	4200	Hin HA-200	4½x5½	32.4	L	GO	F	Zen	G	Hin	Eis	Wes	B-Li	.....	A	4	Pet	Row	.....	½	10	48	Ros	36x5	40x10	StM	.....	7400	160
Rainier R-25	4400	Cont L-4	4½x5½	32.4	L	EM	F	Zen	V	Pier	Eis	.....	B-Li	B-Li 60	A	4	Spic	SP	Tim 1632B	W	Tim 6666	F	10.33	55.26	Ros	36x5	36x5†	Jon	.....	8000	170
Sandow	3695	Cont E-4	4½x5½	32.4	L	Chic	FS	Strm	G	Mon	Bos	.....	B-Li	B-Li 50	A	4	Spic	.....	Tim 1630	W	Tim 6660	..	1025.	41.25	Ros	.....	.....	.....	.....	6800	172
Sanford W35B	....	Cont E-4	4½x5½	32.4	L	McC	F	Strm	G	Pier	Eis	.....	B.B.	B-Li 50	A	4	Spic	Shel	Shel 4FA10	W	Shel 31	½	7.8	34.8	Ros	36x5	36x5†	Hoo	Fir	6750	174
Sanford W-35D	....	Cont E-4	4½x5½	32.4	L	McC	F	Strm	G	Pier	Eis	.....	B.B.	B-Li 55	A	4	Spic	Shel	Shel 4FA10	W	Shel 31	½	8.7	34.8	Ros	36x5	36x5†	Hoo	Fir	6710	156
Selden Unit 70	4175	Cont L4	4½x5½	32.4	L	Lng	F	Strm	G	Phar	Eis	.....	B-Li	.....	A	4	Spic	Per	.....	W	.....	F	8.75	42.35	Gem	36x5	36x10	Stn	.....	7200	165
Selden Unit 52	4850	Cont L-4	4½x5½	32.4	L	Lng	F	Zen	V	Phar	Eis	NE	B-Li	B-Li	A	4	Spic	SS	.....	W	Tim	F	7.75	31	Gem	36x5	36x5	Arc	Opt	7200	195
Selden Unit 53	3550	Cont L-4	4½x5½	32.4	L	Lng	F	Strm	G	Phar	Eis	.....	B-Li	B-Li	A	4	Spic	Per	.....	W	Tim	F	8.5	45.4	Gem	36x4	36x7	Stn	Opt	6200	154
Service 72	....	Buda EBU-I	4¼x5½	28.9	L	McC	F	Strm	V	....	Eis	.....	B.B.	B-Li 60	A	4	Spic	Shel	Tim 1630	W	Tim 6666	F	8.75	42.35	Ros	36x5	36x10	Stn	.....	7610	173
Signal M	....	Cont L-4	4½x5½	32.4	L	Lng	FS	Strm	G	Sim	Eis	.....	B-Li	.....	A	4	Spic	Det	.....	W	.....	F	12	58.08	Ros	36x5	40x10	StM	.....	7350	168
Signal ML	....	Cont L-4	4½x5½	32.4	L	Lng	FS	Strm	G	Sim	Fis	.....	B-Li	.....	A	4	Spic	Det	.....	W	.....	F	12	58.08	Ros	36x5	40x10	StM	.....	7700	204
Standard 3½-5-K	3645	Cont L-4	4½x5½	32.4	L	Lng	F	Strm	V	Sim	Eis	.....	B-Li	B-Li 55	A	4	Spic	Am	Tim 1630B	W	Tim 6666	F	10.3	55.1	Gem	36x5	36x12	Day	.....	7485	160
Standard 3½-5-KS	3725	Cont L-4	4½x5½	32.4	L	Lng	F	Strm	V	Sim	Eis	.....	B-Li	B-Li 60	A	4	Spic	Am	Tim 1630B	W	Tim 6666	F	10.3	55.1	Gem	36x5	36x12	Day	.....	7519	160
Sterling	4750	Own	4½x6¼	32.4	L	Own	F	Zen	V	Wau	Eis	.....	H-S	Own	A	3	Spic	Math	Tim 1630B	W	Tim 6666	F	8.75	39.5	Ros	36x5	40x5†	Pru	.....	7925	162
Stewart 10-X	3440	Buda YTU	4½x6	32	L	Bus	F	Zen	V	Pier	Eis	.....	Full	.....	U	3	Spic	Det	.....	I	.....	D	10	48.01	Ros	36x5†	36x5†	Cla	Fir	.....	165
Super Truck 70	4100	Wis	4¼x6	28.9	L	Chic	F	Zen	G	Sim	Bos	.....	Full	Full H	A	4	Spic	Shel	.....	W	Shel W-31	½	10.25	49.2	Ros	36x5	40x5†	Smi	.....	7500	164
Tiffin F-35	3600	Cont L-4	4½x5½	32.4	L	Own	F	Strm	G	Pier	Bos	Wes	Det	Cott R	A	4	Pet	Vul	Shel 4FA20	W	Shel W-31	½	8.7	44.5	Ros	36x5	40x5†	Smi	.....	7800	160
Titan	3600	Buda EBU	4¼x5½	28.9	L	.....	F	Zen	G	Phar	Eis	.....	B.-Li	B-Li	U	4	Spic	Math	.....	I	.....	D	9	48	Lav	36x5	40x10	Smi	.....	6200	156
Tower G	3175	Cont L-4	4½x5½	32.4	L	Own	S	Zen	..	Pier	Eis	.....	Full	Full GU-7	U	4	Spic	Det	Tim 1630B	W	Tim 6666	F	10.33	50	Ros	36x5	36x5†	Pru	Gdy	7310	165
Transport 60	2585	Buda HTU	4¼x5½	28.9	L	Mod	F	Strm	G	Dup	Eis	Opt	Full	.....	A	4	Hart	Det	.....	I	.....	F	8.15	39.12	Jac	36x4	36x8	Mot	.....	5400	150
Twin City	3500	Own	4¼x6	28.9	H	Spli	F	Strm	V	Own	Bos	.....	B.B.	Full G5	A	4	Spic	Math	Tim 1630B	W	Tim 6652	..	10.33	49.58	Ros	36x5	40x5	Smi	.....	6800	168
United C	....	Buda ETU	4¼x5½	28.9	L	Mod	F	Zen	G	.....	Eis	.....	Full	Full	A	4	Spic	Shel	.....	W	Shel	D	10.25	48.1	Lav	36x5	40x5†	Cla	.....	6700	157

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TRADE NAME AND MODEL	Chassis Price	ENGINE DETAILS: Make and Model Number (4 cylinder unless otherwise noted.)	Bore and Stroke	N.A.C.C. Horsepower	Valve Arrange't	Radiator (Make)	Lubrication	Carburetor	Fuel Feed	Governor (Make)	Ignition System	Engine Starter	Clutch (Make)	GEARSET: Make and Model Number	Location	Speeds	Universal (Make)	Springs (Make)	FRONT AXLE and Model Number	REAR AXLE: Final Drive	Make and Model Number	Type	Total Gear Reduction in High	Total Gear Reduction in Low	Steering Gear (Make)	TIRES, WHEELS, RIMS: *Pneumatic †Dual ‡Solid — Front	Rear	Wheels (Make)	Rim Equipment	Chassis Weight (Stripped)	Wheelbase
		1			2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18			19			20	21		
5 Ton—Con'd																															
Packard EF	4500	Own	5 x5½	40	L	.....	F	Own	P	Own	Spl	Bj	Own	Own	A	4	Spic	.....	Own	W	Own	F	10.66	49	Ros	36x6	40x6†	.....	.....	9050	156
Parker M20	5250	Wis RBU	5 x6	40	L	Own	F	Strm	V	Sim	Eis	Wes	B-Li	Full H	A	4	Bld	Tut	Shul 650	W	Tim 6760	F	10.25	51.1	Ros	36x6	40x6†	Smi	.....	8400	160
Pierce Arrow R10	4850	Own	4½x6¾	32.4	T	Own	F	Strm	P	Own	Del	.....	Own	Own	A	4	Spic	SP	Own	W	Own	F	10	61.2	.....	36x5	40x6†	Day	Gdy	9300	168
Rowe FW	4850	Wis VAU	4½x6	32.4	L	Fed	F	Zen	G	Sim	Bos	.....	B-Li	B-Li 60	A	4	Spic	Shel	Shel 5A30	W	Shel W-51	½	10.25	40.7	Ros	36x6	40x6†	Hoo	.....	8300	169
Sandow	4325	Cont B-5	4½x5½	32.4	L	Chic	FS	Strm	G	Mon	Bos	.....	B-Li	B-Li 60	A	4	Spic	.....	Tim 1730	W	Tim 6760	½	11	46.6	Ros	.....	.....	.....	.....	7800	175
Sanford W50	....	Cont E-5	4½x6	32.4	L	McC	F	Strm	G	Pier	Eis	.....	B.B.	B-Li 60	A	4	Spic	Shel	Shel 4FA10	W	Shel 51	½	10.75	52.03	Ros	36x5	40x6†	Hoo	Fir	8700	174
Schacht	4600	Wis VAU	4½x6	32.4	L	Own	F	Zen	G	Dup	Bos	.....	B.B.	Own	A	4	Spic	Nat	Own	W	Own	F	14	66.5	Own	36x5	40x6†	StM	.....	8200	168
Schwartz 120 L	4890	Buda BTU	5 x6½	40	L	Own	F	Zen	V	Phar	RBo	.....	B-Li	B-Li 60	A	4	M-E	Row	Tim 1732B	W	Tim 6760	F	8.80	47.1	Ros	36x6‡	36x7†	StM	.....	9400	204
Selden Unit 90	4950	Cont B-5	4¾x6	36.1	L	Lng	F	Strm	G	Phar	Eis	.....	Det	.....	A	4	Spic	SP	.....	W	.....	F	10.25	55	Gem	36x6	40x12	Stn	.....	9650	164
Selden 73	....	Cont B-5	4¾x6	36.1	L	Lng	F	Strm	G	Phar	Eis	.....	Det	.....	A	4	Spic	SP	.....	W	.....	F	10.25	55	Gem	36x6	40x12	Stn	.....	9650	164
Signal R	....	Cont B-5	4¾x6	36.1	L	Lng	FS	Strm	G	Sim	Eis	.....	B-Li	.....	A	4	Spic	Det	.....	W	.....	F	11.6	56.43	Ros	36x6	40x12	Smi	Gdy	9500	180
Sterling	5400	Own	5 x6¼	40	L	Own	F	Zen	V	Wau	Eis	.....	H-S	Own	A	3	Spic	Math	Tim 1730B	W	Tim 6760	F	8.8	39.69	Ros	36x6	40x6†	Pru	.....	9325	168
Sterling-Chain St. EHD	6000	Own	5 x6¼	40	L	Own	F	Zen	V	Wau	Eis	.....	H-S	Own	A	6	M-E	Math	Tim 1730B	C	Own	D	7.26	44	Ros	36x6	40x6†	Smi	.....	9825	174
Sterling-Chain St. ELD	5490	Own	4½x6¼	32.4	L	Own	F	Zen	V	Wau	Eis	.....	H-S	Own	A	6	M-E	Math	Tim 1630B	C	Own	D	7.7	47	Ros	36x5	40x10	Pru	.....	8000	174
Super Truck 100	4500	Wis	4¾x6	36.1	L	Chic	F	Zen	G	Sim	Spl	.....	Full	Full H	A	4	Spic	Shel	.....	W	Shel W-51	½	10.25	49.2	Ros	40x5	40x6†	Smi	.....	8500	164
Tiffin TW	4300	Cont B-2	4¾x6	36.1	L	Own	F	Sheb	G	Con	Bos	Wes	B.B.	Cotts S	A	4	Pet	Vul	Shel 5FA30	W	Shel W-51	½	10.25	53.3	Ros	36x6	40x6†	Smi	.....	8550	168
Titan 5	4100	Buda YBU	4½x6	32.4	L	.....	F	Zen	G	Phar	Eis	.....	B-Li	B-Li	A	4	Spic	Shel	Shel 5FA30	I	Own	D	11	59	Lav	36x5	40x12	Smi	.....	8400	156
Transport 75	....	Buda YTU	4½x6	32.5	L	Mod	F	Strm	G	Dup	Eis	Opt	B.B.	.....	U	4	Hart	Det	.....	I	.....	F	10	51.1	Jac	36x5	36x12	Mot	.....	7600	170
Traylor F	4700	Buda YTU	4½x6	32.6	L	GO	F	Zen	G	Sim	Bos	.....	B-Li	B-Li 60	A	4	Spic	Mer	Shel 4FA20	W	Shel W-32	½	10.2	.....	Ros	36x6	40x6†	Smi	.....	9000	170
Ultimate D	5500	Buda BTU	5 x6½	40	L	Own	F	Strm	G	Pier	Eis	Bos	B-Li	B-Li 60	A	4	Spic	Shel	.....	W	Shel W-51	½	8.75	46.8	Ros	36x6	40x14	Smi	.....	8600	180
U. S., S. Special	....	Hin HA	4½x5½	32.4	L	Lng	F	Strm	V	Hin	Eis	Opt	B-Li	B-Li 55	A	4	Opt	Shel	.....	W	Shel	½	11.75	62.9	Lav	36x6	40x6†	Smi	.....	7500	168
Walter S	5100	Own DU	4½x6¼	32.4	L	Bus	F	Strm	G	.....	Bos	Wes	B-Li	.....	A	4	Own	Stan	.....	R	.....	F	9	45	Ros	36x6	40x6†	Day	.....	8200	168
Ward La France A	4890	.....	5 x6¼	40	L	Own	F	Strm	G	.....	Bos	.....	B-Li	B-Li 60	A	4	Spic	Row	Tim 1730B	W	Tim 6760	F	8.8	47.08	Ros	36x6	40x6†	Smi	.....	9300	164
White 45	4500	Own GN	4¼x5¾	28.9	L	.....	F	Zen	V	Own	.....	.....	Own	Own GMC	U	4	Own	.....	Own	R	Own	F	11.6	47.85	Own	36x6	40x6†	.....	.....	7950	174
Wilcox F	4350	Buda	4¾x6½	36.1	L	.....	S	Strm	V	Dup	Bos	.....	Own	.....	A	4	Spic	Shel	.....	R	.....	½	10.25	56.58	Own	36x5	40x12	Smi	.....	9000	162
Wilson H	4520	Cont	4¾x6	36.1	L	Lng	FS	Hol	V	Pier	Eis	.....	B.B.	Cott S	A	4	KB	Per	Tim 1730	W	Tim 6760	F	10.25	42.35	Ros	36x6	40x6†	Sm	.....	7500	160
Winther 109	4700	Wis WAU	4½x6	32.4	L	Brm	F	Mas	V	Dup	Eis	Wes	B.B.	B-Li 60	A	4	Bld	Math	Tim	I	Clark	D	12	60.5	Ros	36x5	40x6†	Cla	.....	8300	162
5½, 6 and 7 Ton																															
Autocar B	4350	Own	4¼x5½	28.9	L	Own	S	Strm	G	Phar	.....	.....	Own	Own	A	4	Spic	Del	Own	R	Own	F	8.7	52.3	Ros	34x6	36x12	Hoo	.....	7400	156
Autocar Y	4200	Own	4¼x5½	28.9	L	Own	S	Strm	G	Phar	.....	.....	Own	Owh	A	4	Spic	Del	Own	R	Own	F	8.7	52.3	Ros	36x6	36x12	Hoo	.....	7200	120
Clinton	4890	Buda BTU	5 x6½	40	L	Own	F	Zen	V	Phar	RBo	.....	B-Li	B-Li 60	A	4	M-E	Row	Tim 1732 B	W	Tim 6760	F	11.66	62.4	Ros	36x6‡	40x7†	StM	.....	9400	180
Clydesdale 2	....	Cont B-5	4¾x6	36.1	L	Own	F	Zen	V	Own	Bos	.....	B-Li	B-Li 60	A	4	Spic	Stan	Tim 1730B	W	Tim 6760	D	11.6	62.5	Ros	36x7	40x7†	.....	.....	.....	176
Garford 150 A-7½	5750	Buda BTU	5 x6½	40	L	Own	F	Strm	G	Sim	Spl	.....	.....	Own	J	4	Spic	Per	Tim 1730B	C	Own	D	11.44	.....	Ros	36x6	40x7†	.....	.....	10200	162
Gramm-Bernstein 50-60	4450	Cont	4¾x6	36.1	L	Own	...	Strm	G	Con	Eis	NE	Own	Own	A	4	Own	Per	Shel	...	Shel W51	½	10.5	62.	Ros	36x6	40x6†	Smi	.....	9700	...
Hurlburt E-E	4850	Buda ATU	4¾x6½	36.1	L	.....	...	.....	...	Sim	Eis	.....	.....	.....	A	4	.....	.....	.....	W	.....	F	10.25	.....	.....	36x6	40x6	.....	.....	9965	Op
Kelly-Springfield K-60	4600	Own	4½x6½	32.4	T	Lng	F	Zen	G	Pier	Eis	Del	B.B.	Covt	A	4	.....	Per	Own	C	Own	D	12.41	50.26	Gem	36x6	40x7†	Smi	.....	9000	Op
Kelly-Springfield K-61	4800	Own	4½x6½	32.4	T	Lng	F	Zen	G	Pier	Eis	Del	B.B.	Covt	A	4	Pet	Per	Own	I	Own	D	11.6	61.8	Gem	36x6	36x7	Cla	.....	9025	Op
MacDonald AB-7½	8000	Buda YTU	4½x6	32.4	L	Own	F	Zen	V	Sim	Spl	.....	B-Li	B-Li	U	4	Own	Own	.....	I	Own	D	17.5	77.	Own	40x7	Opt	Opt	.....	.....	190
Mack AC6½	5750	Own AC	5 x6	40	L	Own	S	Zen	G	Own	Spl	.....	Own	Own	J	4	Spic	Mer	Own	C	Own	D	8.95	57.41	Own	36x6	40x12	.....	.....	9500	Op
Mack AC7½	6000	Own AC	5 x6	40	L	Own	S	Zen	G	Own	Spl	.....	Own	Own	J	4	Spic	Mer	Own	C	Own	D	10.5	67.38	Own	36x7	40x7†	.....	.....	9900	Op
Master 64	....	Buda ATU	4¾x6½	36.1	L	Chic	F	Zen	V	Pier	Eis	.....	B-Li	B-Li	A	4	Spic	Det	Tim	W	Tim	F	Opt	Opt	Ros	36x6	40x14	Smi	.....	9800	170
Old Reliable... L	6000	Wau EU	5 x6¼	40	L	Chic	S	Strm	G	Wau	Bos	.....	Own	Own	J	4	Pet	Shel	Cont 2005	C	Own	D	10.07	50.65	Ros	36x6	40x7†	Sch	.....	10250	Op
Rainier R-27	5100	Cont B-5	4¾x6	36.1	L	EM	F	Zen	V	Pier	Eis	.....	B-Li	B-Li 60	A	4	Spic	SP	Tim 1632B	W	Tim 6760	F	13.66	73.08	Ros	36x6	40x6†	Smi	.....	9000	170
Schwartz 120 S	4890	Buda BTU	5 x6½	40	L	Own	F	Zen	V	Phar	RBo	.....	B-Li	B-Li 60	A	4	M-E	Row	Tim 1732 B	W	Tim 6760 F	F	11.66	62.4	Ros	36x6‡	40x7†	StM	.....	9400	180
Service 103	....	Buda YBU-	4½x6	32.4	L	Lng	F	Strm	V	.....	Eis	.....	B.B.	B-Li 60	A	4	M-E	Shel	Tim 1730	W	Tim 6760	F	10.25	54.8	Ros	36x6	40x12	.....	.....	9170	173
Standard 5-7K	4495	Cont B-5	4¾x6	36.1	L	Lng	F	Strm	V	Sim	Eis	.....	B-Li	B-Li 60	A	4	Spic	Am	Tim 1730	W	Tim 6760	F	11.66	62.3	Gem	36x6	40x14	Day	.....	8700	164
Sterling 7½-Chain	6500	Wau	5 x6¼	40	L	Own	F	Zen	V	Wau	Eis	.....	H-S	.....	A	6	M-E	Math	.....	C	Own	D	7.26	44	Ros	36x6	40x7†	Smi	.....	10575	174
Tiffin 6 U-W	4500	Cont B-2	4¾x6	36.1	L	Own	F	Sheb	G	Con	Bos	Wes	B.B.	Cott S	A	4	Pet	Vul	Shel 5FA30	W	Shel W-51	½	10.25	53.3	Ros	36x6	40x12	Smi	.....	9200	168
U. S. T	....	Buda ATU	4¾x6½	36.1	L	Lng	F	Strm	V	Sim	Eis	Opt	B-Li	B-Li 60	A	4	Opt	Shel	Shel 4FA20	W	Shel W-51	½	10.25	54.8	Lav	36x6	40x6†	Smi	.....	9700	172
Walter R	5400	Own DU	4½x6¼	32.4	L	Bus	F	Strm	G	.....	Eis	Wes	B-Li	.....	A	4	Own	.....	.....	F	.....	F	11	55	Ros	36x6	40x7†	Day	.....	8500	168
Winther 140	....	Wis-RBU	5 x6	40	L	Brm	F	Mas	V	Dup	Eis	Wes	B.B.	B-Li 60	A	4	Bld	Math	Tim	I	Clark	D	12	60.5	Ros	36x6	40x7†	Cla	.....	9600	162
Gasoline Tractor-Trucks																															
Federal Light Duty	....	Cont K-4	4⅛x5¼	27.2	L	Own	F	Zen	V	Phar	Eis	Rm	B.B.	Det	A	4	Spic	.....	Own	W	Tim 6560	F	8.5	50.15	Gem	36x4	36x4†	.....	.....	5000	121
Federal Heavy Duty	....	Cont L-4	4½x5½	32.4	L	Own	F	Zen	V	Phar	Eis	Rm	B.B.	W-Gr	A	4	Spic	.....	Tim 1630B	W	Tim 6666	F	10.33	59.8	Gem	36x5	36x5†	.....	.....	6700	125
Harvey WFT	3050	Buda ETU	4¼x5½	28.9	L	Own	F	Strm	G	McC	Spl	.....	Full	B-Li 50	A	4	Spic	Bea	Shel D-370	W	Shel W-21	½	9.5	45.9	Ros	36x5	36x10	Smi	.....	7030	125
Harvey WHT	4050	Buda YTU	4½x6	32.4	L	Own	F	Strm	G	McC	Spl	.....	Full	B-Li 60	A	4	Spic	Bea	Shel 4FA20	W	Shel W-32	½	10.2	54.7	Ros	36x6	36x12	Smi	.....	8900	125
International 62 3 Ton	....	Own	4¼x6	28.9	H	Own	FS	Ens	G	Own	Spl	Own	Own	.....	A	4	Own	.....	.....	I	.....	D	9	47.8	Own	.....	.....	Own	.....	.....	.....	122
International 102 5 Ton	....	Own	4¼x5	28.9	H	Own	FS	Ens	G	Own	Spl	Own	Own	.....	A	4	Own	.....	.....	I	.....	D	11	58.4	Own	.....	.....	Own	.....	.....	.....	122
Lombard 140 H.P	....	Spec 6	5¾x7	72.7	L	Spec	F	Strm	P	.....	Sim	Wes	Own	Own	A	3	Own	.....	Own	W	Own		.....	.....	Spe	.....	.....	.....	.....	18000	...
Lombard 60 H.P	....	Spec 4	5⅛x6½	42	L	Spec	F	Strm	P	.....	Sim	Wes	Own	Own	A	4	Own	.....	Own	W	Own		.....	.....	Spe	.....	.....	.....	.....	8000	...
Mack AB 5-Ton	3400	Own AB	4¼x5	28.9	L	Own	S	Zen	G	Own	Spl	.....	Own	Own	J	4	Spic	Mer	Own	C	Own	D	10.53	51.07	Own	36x4	36x4†	.....	.....	5200	120
Mack AC 7-Ton	4950	Own AC	5 x6	40	L	Own	S	Zen	G	Own	Spl	.....	Own	Own	J	4	Spic	Mer	Own	C	Own	D	9.69	62.20	Own	36x5	40x5†	.....	.....	8700	119
Mack AC 10-Ton	5500	Own AC	5 x6	40	L	Own	S	Zen	G	Own	Spl	.....	Own	Own	J	4	Spic	Mer	Own	C	Own	D	10.5	67.38	Own	36x6	40x6†	.....	.....	9150	119
Mack AC 13-Ton	5750	Own AC	5 x6	40	L	Own	S	Zen	G	Own	Spl	.....	Own	Own	J	4	Spic	Mer	Own	C	Own	D	11.58	74.29	Own	36x6	40x12	.....	.....	9175	119
Mack AC 15-Ton	6000	Own AC	5 x6	40	L	Own	S	Zen	G	Own	Spl	.....	Own	Own	J	4	Spic	Mer	Own	C	Own	D	12.92	82.92	Own	36x7	40x7†	.....	.....	9500	119
Walter FT	6500	Own DU	4½x6½	32.4	L	Bus	F	Strm	V	.....	Eis	Wes	M-E	.....	5		Own	.....	.....	...	.....	F	8.5	85	Ros	40x7	40x7†	Day	.....	8900	100
Watson U	4050	Cont E-4	4½x5½	32.4	L	Jam	FS	Strm	G	Pier	Sim	.....	B-Li	.....	U	4	Spic	Shel	.....	W	.....	F	8.75	42.35	Gem	34x4	36x5†	C&M	.....	6500	180

ELECTRIC COMMERCIAL CARS

Name and Model Number	Carrying Capacity	Chassis Weight—Exclusive of Battery	Chassis Weight—with Minimum Battery Capacity	Chassis Weight With Maximum Battery Capacity	Chassis Price	Maximum Speed	Location of Battery	Mileage Per Charge	Motor	Controller	Speeds Forward	Drive	Rear Axle	Springs	Front Tires	Rear Tires	Steering Gear	Wheelbase	Per Cent of Weight on Rear Wheels
C-T D-1	1000	2200	.....	.....	1700	14	A	55	G-E	Own	4	Own	Flot	Shel	36x3	36x3½	W	100	69
C-T B-1.5	1500	2300	.....	.....	2100	14	A	60	G-E	Own	4	Own	Flot	Shel	36x3	36x4	W	91½	65
C-T D-1.5	1500	2300	.....	.....	2100	14	A	60	G-E	Own	4	Own	Flot	Shel	36x3	36x4	W	116	71
C-T B-2	2000	2400	.....	.....	2350	14	A	50	G-E	Own	4	Own	Flot	Shel	36x3½	36x5	W	101	66
C-T D-2	2000	2400	.....	.....	2350	14	A	50	G-E	Own	4	Own	Flot	Shel	36x3½	36x5	W	124	70
C-T B-4	4000	4000	.....	.....	2800	12	A	50	G-E	Own	4	Own	Flot	Shel	36x4	36x4†	W	116	68
C-T C-6	6000	4300	.....	.....	3100	10	A	45	G-E	Own	4	I	D	Shel	36x4	36x4†	W	122	70
C-T C-7	7000	5000	.....	.....	3800	10	A	45	G-E	Own	4	I	D	Shel	36x5	36x5†	W	126	65
C-T A-7	7000	5800	.....	.....	4150	11	A	45	G-E	Own	4	I	D	Shel	36x6	36x4†	W	122	60
C-T A-10	10000	6500	.....	.....	4250	10	A	45	G-E	Own	4	I	D	Shel	36x7	36x5†	W	132	59
Kelland AT	1000	1950	3050	3550	.....	15	S	50	G-E	G-E	4	R	Flot	Mer	34x3	34x3	Ross	102	60
Kelland BT	1500	2050	3150	3950	.....	15	S	50	G-E	G-E	4	R	Flot	Mer	34x3½	34x3½	Ross	102	60
Kelland CT	2000	2150	3450	4050	.....	15	S	50	G-E	G-E	4	R	Flot	Mer	34x3½	34x4	Ross	102	60
Kelland AH	1000	2500	3600	4100	.....	15	A	45	G-E	G-E	4	C	D	Mer	36x3	36x3	Hin	106	60
Kelland BH	1500	2600	3700	4500	.....	15	A	45	G-E	G-E	4	C	D	Mer	36x3½	36x3½	Hin	106	60
Kelland CH	2000	2700	4000	4600	.....	15	A	45	G-E	G-E	4	C	D	Mer	36x3½	36x4	Hin	106	60
Lansden Century	1250	1700	.....	.....	1600	15	S	50	G-E	G-E	4	R	Flot	SP	32x4½	32x4½	Lav	108	50
Lansden Century	2000	1950	.....	.....	1850	15	S	50	G-E	G-E	4	R	Flot	SP	33x5	33x5	Lav	112	50
Lansden Marathon	2000	2900	.....	.....	1850	12	A	50	G-E	G-E	4	C	D	SP	36x3	36x3½	KH	108	60
Lansden Marathon	4000	4400	.....	.....	2250	11	A	50	G-E	G-E	4	C	D	SP	36x4	36x3†	KH	120	60
Lansden ME	7000	5700	.....	.....	2950	10	A	45	G-E	G-E	4	C	D	SP	36x5	36x4†	KH	133	60
Lansden MF	10000	7500	.....	.....	3350	9	A	40	G-E	G-E	4	C	D	SP	36x6	36x5†	KH	146	60
Milburn Model 40	2000	1990	.....	.....	1985	15	H&S	40	G-E	Own	4	.....	W	Math	32x4½	33x5	Gem	128	62
Milburn Model 43	1000	1690	.....	.....	1585	18	H&S	50	G-E	Own	4	.....	W	Math	32x4½	32x4½	Gem	115	56
Milburn Model 27D	500	1325	.....	.....	1085	20	H&S	50	G-E	Own	4	.....	W	Math	33x4	33x4	Gem	105	48
O. B. A	2000	.....	.....	.....	2175	14	.....	.....	G-E	Own	...	C	D	.....	36x3½	36x4	Own	103	.....
O. B. B	4000	.....	.....	.....	2650	13	.....	.....	G-E	Own	...	C	D	.....	36x4	36x3½†	Own	107	.....
O. B. C	7000	.....	.....	.....	3750	11	.....	.....	G-E	Own	...	C	D	.....	36x5	36x4 †	Own	135	.....
O. B. D	10000	.....	.....	.....	3950	10	.....	.....	G-E	Own	...	C	D	.....	36x6	36x5 †	Own	143	.....
Steinmetz 10	1000	2000	.....	.....	.....	16	H&S	52	Diehl	Own	4	R	Russ	Shel	32x4½	32x4½	Lav	106	60
Steinmetz 15	1500	2300	.....	.....	.....	16	H&S	55	Diehl	Own	4	R	Russ	Shel	33x5	33x5	Lav	114	60
Walker 12	1000	1900	.....	.....	.....	15	.....	60	G-E	West	4	.....	Tim	Det	32x3	32x3½	Ross	104	66
Walker 15	1500	2600	.....	.....	.....	15	.....	60	West	West	5	Own	Own	Math	34x3	36x3½	Ross	94	66
Walker 22	2000	2800	.....	.....	.....	14	.....	60	West	West	5	Own	Own	Math	34x3½	36x4	Ross	101	66
Walker 42	4000	3800	.....	.....	.....	13	.....	60	West	West	5	Own	Own	Math	36x4	36x6	Ross	114	66
Walker N	10000	6400	.....	.....	.....	10	.....	50	West	West	5	Own	Own	Math	36x6	38x6†	Ross	141	66
Walker P	7000	5600	.....	.....	.....	11	.....	50	West	West	5	Own	Own	Math	36x5	38x5†	Ross	131	66
Walter EN	4000	4400	.....	.....	3100	15	A	50	G-E	G-E	5	Own	D	.....	36x4	36x7	Gem	114	60
Walter EL	6000	5000	.....	.....	3700	13½	A	50	G-E	G-E	5	Own	D	.....	36x5	36x4	Gem	132	60
Walter ES	10000	7200	.....	.....	4500	12	A	50	G-E	G-E	5	Own	D	.....	36x6	40x6	Ros	150	70
Walter ER	14000	7500	.....	.....	4800	11	A	50	G-E	G-E	5	Own	D	.....	36x7	40x7	Ros	150	70
Ward WS 2	.....	1650	.....	.....	.....	14	S	75	G-E	Own	4	W	Shel	Shel	32x3	32x3½	Own	88	56
Ward WA	.....	2860	.....	.....	.....	13	A	52½	G-E	G-E	4	W	Shel	Shel	32x3½	34x4	Own	90	61
Ward WA 2	.....	2470	.....	.....	.....	13	S	72½	G-E	Own	4	W	Shel	Shel	32x3½	34x4	Own	90	61
Ward WB	.....	3850	.....	.....	.....	12½	A	50	G-E	G-E	4	W	Shel	Shel	34x4	36x5	Own	102	64
Ward WB 2	.....	3350	.....	.....	.....	12½	S	70	G-E	Own	4	W	Shel	Shel	34x4	36x5	Own	102	64
Ward WD	.....	4875	.....	.....	.....	11	A	50	G-E	G-E	4	W	Shel	Shel	36x5	36x7	Own	114	68
Ward WD 2	.....	4350	.....	.....	.....	11	S	60	G-E	G-E	4	W	Shel	Shel	36x5	36x7	Own	114	68
Ward WF	.....	7200	.....	.....	.....	10	A	40	G-E	G-E	5	W	Shel	Shel	36x6	36x10	Own	132	70
Ward WF 2	.....	6450	.....	.....	.....	10	S	40	G-E	G-E	5	W	Shel	Shel	36x6	36x10	Own	132	70
Ward WH	.....	9400	.....	.....	.....	9	A	38	G-E	G-E	5	W	Shel	Shel	36x7	40x12	Own	146	70
Ward WH 2	.....	8200	.....	.....	.....	9	S	38	G-E	G-E	5	W	Shel	Shel	36x7	40x12	Own	146	71
Ward WM	.....	2600	.....	.....	.....	12½	S	57½	G-E	Own	4	W	Shel	Shel	32x3½	32x4	Own	88	70
Ward WM 2	.....	2900	.....	.....	.....	12	S	70	G-E	Own	4	W	Shel	Shel	32x3½	32x5	Own	96	70

NOTE: Battery Equipment in all above makes is at the option of the purchaser. Battery Location Abbreviations: A—amidships; H—under hood; and S—under seat.

Hutchinson Joins Reorganized O. K. Truck Company

Rollin W. Hutchinson, Jr., has recently been appointed vice-president and assistant general manager of the O. K. Truck Manufacturing Co., Okay, Okla., formerly the Oklahoma Auto and Manufacturing Co. Mr. Hutchinson is one of the veterans of the truck industry, having been associated with the motor truck industry directly and indirectly for a period over eleven years in sales, advertising and transportation engineering capacities with the International Motor, the Sterling and Vim Motor Truck companies. Prior to his long association with the motor truck industry he was for some years with the Westinghouse companies in engineering and marketing capacities and has had a broad experience in both the electrical and automotive industry.

In the reorganization of the company recently Dan L. Jones, of Jonesboro, Ark., was elected president. Mr. Jones was for a number of years associated with the Mutual Life Insurance Co. of Arkansas as secretary, treasurer and general manager and he enjoys an extensive reputation in the southwest for his ability as an organizer and exceptional salesman.

Levitation is Basis of Timken Window Display

Thirty-two branches of the Timken Roller Bearing Service and Sales Company in its July window display are employing this motive. Timken bearings are suspended as if in mid-air by invisible strings in exactly the position by which they are used in automotive vehicles. Ribbons run from each of the bearings to a card bearing the diagram of a chassis on which is indicated the position which each bearing represents. The display is interesting and educational.

Manufacturers and Models Included in Specifications on Preceding Pages

Acason—2, 2½, 3½, 5—The Acason Corp., Detroit, Mich.
Ace—1½, 2½—American Motor Truck Co., Newark, Ohio.
★Acme—1, 1½, 2, 3, 3½ 4½, 6¼—Acme Motor Truck Co., Cadillac, Mich.
American—2½, 4, 5—American Motor Truck & Tractor Co., Portland, Conn.
★American La France—¾, 2, 3½, 5—American La France Fire Engine Co., Inc., Elmira, N. Y.
Armleder—1, 1½, 2½, 3½—O. Armleder Motor Truck Co., Cincinnati Ohio.
Atco—1½, 2½—American Truck & Trailer Corp., Kankakee, Ill.
Atlas—1¼, 2½—Atlas Truck Corp., Div. of Industrial Motor Corp., York, Pa.
★Atterbury—1½, 2½, 3½, 5—Atterbury Motor Car Co., Buffalo, N. Y.
★Autocar—1, 1¼, 1½, 2, 2½, 3, 4, 5 to 7—Autocar Co., Ardmore, Pa.
Available—1½, 2, 2½, 3½, 5—Available Truck Co., Chicago, Ill.
Avery—1—Avery Company, Peoria, Ill.
Bell—1, 1½, 2½—Iowa Motor Truck Co., Ottumwa, Ia
Belmont—1, 2, 3—Belmont Motors Corp., Harrisburg, Pa.
★Bessemer—1, 1½, 2½, 4—Bessemer Motor Truck Co., Grove City, Pa.
Bethlehem—1½, 2½, 3½—Bethlehem Motors Corp., Allentown, Pa.
Betz—7, 2½—Betz Motor Truck Co., Hammond, Ind.
Brinton—1½, 2½—Brinton Motor Truck Co., Philadelphia, Pa.
Brockway—¾, 1½, 2½, 3½, 5—Brockway Motor Truck Co., Cortland, N. Y.
★Buffalo—2, 3—Buffalo Truck and Tractor Corp., Clarence, N. Y.
Buick—¾—Buick Motor Co., Flint, Mich.
C. T.—1, 1½, 2, 3½, 5—Commercial Truck Co., Philadelphia, Pa.
Casco—1—Casco Motors, Inc., Portland, Maine.
Case—2—J. I. Case Plow Works Co., Racine, Wis.
Chevrolet—½, ¾, 1—Chevrolet Motor Co. of Mich., Flint, Mich.
Chicago—1½, 2½, 3½, 5—Chicago Motor Truck, Inc., Chicago, Ill.
Climber—1½—Climber Motor Corp., Little Rock, Ark.
Clinton—1¼, 2, 3, 4, 5 to 7—Schwartz Motor Truck Corp., Reading, Pa.
Clydesdale—1¼, 2½, 3½, 5, 7—Clydesdale Motor Truck Co., Clyde, Ohio.
★Commerce—¾, 1½, 2½—Commerce Motor Truck Co., Detroit, Mich.
Concord—1½, 2, 2½, 3—Abbott-Downing Truck & Body Co., Concord, N. H.
Corbitt—¾, 1, 1½, 2, 2½, 3, 4, 5—Corbitt Motor Truck Co., Henderson, N. C.
★Day-Elder—1, 1½, 2, 2½, 3½, 5—Day-Elder Motors Corp., Newark, N. J.
★Defiance—1¼, 1½, 2, 3—Defiance Motor Truck Co., Defiance, Ohio.
★Denby—1¼, 2, 3, 4, 5—Denby Motor Truck Co., Detroit, Mich.
Dependable—1¼, 2, 2½, 3, 3½—Dependable Truck & Tractor Co., East St. Louis, Ill.
Diamond T—1¼, 1½, 2½, 3½, 5—Diamond T Motor Car Co., Chicago, Ill.
Diehl—1½—Diehl Motor Truck Works, Philadelphia, Pa.
Dixon—1½, 2½, 3½—Dixon Motor Truck Co., Altoona, Pa.
Dodge—¾—Dodge Bros., Detroit, Mich.
D-Olt—1, 1½, 2½, 5—D-Olt Motor Truck Co., Inc., Long Island City, N. Y.
Dorris—1, 2, 3½—Dorris Motor Car Co., St. Louis, Mo.
Dort—½—Dort Motor Car Co., Flint, Mich.
Double Drive—4—Double Drive Truck Co., Benton Harbor, Mich.
Drake—2—Drake Motor & Tire Mfg. Corp., Knoxville, Tenn.
★Duplex—1, 1½, 2, 3½—Duplex Truck Co., Lansing, Mich.
Eagle—1¼, 2—Eagle Motor Truck Corp., St. Louis, Mo.
Eugol—1—Eugol Motor Truck Co., Chicago, Ill.
F. W. D.—3—Four-Wheel Drive Auto Co., Clintonville, Wis.
Facto—2½—Facto Motor Trucks, Springfield, Mass.
Fageol—2, 3, 4, 5—Fageol Motors Co., Oakland, Cal.
★Federal—¾, 1, 1½, 2, 3½, 5, T.T.—Federal Motor Truck Co., Detroit, Mich.
Ford—1—Ford Motor Co., Highland Park, Mich.
Front Drive—1½—Double Drive Truck Co., Benton Harbor, Mich.
Fulton—1, 2—Fulton Motors Corp., Farmingdale, N. Y.
★G. M. C.—1, 2, 3½, 5—General Motors Truck Co., Pontiac, Mich.
G. W. W.—1½—Wilson Truck Mfg. Co., Henderson, Ia.
★Garford—1, 1½, 2½, 4, 5, 7½—Garford Motor Truck Co., Lima, O.
★Gary—1, 2, 2½, 3½, 5—Gary Motor Corp., Gary, Ill.
Gotfredson—1, 1½, 2½, 4, 5—Gotfredson Truck Corp., Ltd., Walkerville, Ont.
★Graham—1, 1½—Graham Brothers, Evansville, Ind.
★Gramm-Bernstein—1, 1½, 2, 2½, 3, 3½, 4, 5—Gramm-Bernstein Motor Truck Co., Lima, Ohio.
Hal-Fur—2, 3½—Hal-Fur Motor Truck Co., Cleveland, Ohio.
Harvey—2, 2½, 3½, 6, 10—Harvey Motor Truck Co., Harvey, Ill.
Hawkeye—1, 1½, 2½, 3½—Hawkeye Truck Co., Sioux City, Iowa.
Hendrickson—2½, 3½, 5—Hendrickson Motor Truck Co., Chicago, Ill.
Hewitt-Ludlow—2, 2½, 3½, 5—Hewitt-Ludlow Co., Inc., San Francisco, Cal.
Hug—1½—The Hug Co., Highland, Ill.
Hurlburt—1½, 2½, 3½, 5, 7—Harrisburg Mfg. & Boiler Co., Harrisburg, Pa.
Independent—1, 1½, 2½—Independent Motor Truck Co., Inc., Davenport, Ia.
Indiana—1, 1½, 2, 2½, 3½, 5—Indiana Truck Corp., Marion, Ind.
★International—¾, 1, 1½, 2, 2½, 3, 5—International Harvester Co., Chicago, Ill.
Jackson—3½—Jackson Motors Corp., Jackson, Mich.
Jumbo—1½, 2, 2½ 3, 3½, 5—Nelson Brothers Co., Saginaw, Mich.
Kalamazoo—1½, 2½, 3½, 5—Kalamazoo Motor Corp., Kalamazoo, Mich.
Kearns—1, 1½, 2—Kearns-Dughie Motors Co., Danville, Pa.
Kelland—Kelland Motor Car Co., Newark, N. J.
Kelly-Springfield—1½, 2½, 3½, 5, 6—Kelly-Springfield Motor Truck Co., Springfield, O.
Kenworth—1½, 2½, 3½—Kenworth Motor Truck Corp., Seattle, Wash.
Keystone—2—Keystone Motor Truck Corp., Oaks, Pa.
★Kissel—1, 1½, 2½, 4—Kissel Motor Car Co., Hartford, Wis.
Kleiber—1, 1½, 2, 2½, 3½, 5—Kleiber & Co., Inc., San Francisco, Cal.

★Indicates Advertisers. See Advertisers' Index.

Lange—2, 2½—Lange Motor Truck Co., Pittsburgh, Pa.
Lansden—¾, 1, 2, 3½, 5, 6—Lansden Company, Danbury, Conn.
Larrabee-Deyo—1, 1½, 2½, 3½,—Larrabee-Deyo Motor Truck Co., Inc., Binghamton, N. Y.
Lombard—T.T.—Lombard Auto Tractor Truck Corp., New York, N. Y.
Luedinghaus—1, 1½, 2—Luedinghaus-Espenschied Wagon Co., St. Louis, Mo.
Maccar—1½, 2, 3, 4, 5—Maccar Truck Co., Scranton, Pa.
★MacDonald—5, 7, 7½—Union Construction Co., San Francisco, Cal.
Mack—1½, 2, 2½, 3½, 5, 6½, 7½, T.T.—Mack Motors, Inc., New York, N. Y.
Mason Road King—1—Durant Motors, Inc., Long Island City, N. Y.
Master—1¼, 1½, 2½, 3½, 5, 5½—Master Motors Corp., Chicago, Ill.
Maxwell—1½—Maxwell Motor Co., Inc., Detroit, Mich.
Menominee—1, 1¼, 1½, 2, 3½, 5—Menominee Motor Truck Co. Clintonville, Wis.
Milburn—Milburn Wagon Co., Toledo, O.
Moreland—1, 1½, 2, 3, 5—Moreland Motor Truck Co., Burbank, Cal.
Nash—1, 2—Nash Motors Co., Kenosha, Wis.
Nelson-LeMoon—1, 1½, 2½, 3½, 5—Nelson & LeMoon, Chicago, Ill.
Netco—2, 2½—New England Truck Co., Fitchburg, Mass.
Niles—2½—South Main Motor Co., Pittsburgh, Pa.
Noble—1, 1¼, 2, 2½, 3½—Noble Motor Truck Co., Kendallville, Ind.
O. B.—1, 2, 3, 5—O. B. Electric Vehicles, Inc., Long Island City, N. Y.
O. K.—1½, 2½, 3½—Oklahoma Auto Mfg. Co., Okay, Okla.
Ogden—¾, 1½, 2½, 3½, 5—Ogden Truck Co., Chicago, Ill.
Old Reliable—2½, 3½, 5, 6—Old Reliable Motor Truck Co., Chicago, Ill.
Oldsmobile—1—Olds Motor Works, Lansing, Mich.
Olympic—2½—Olympic Motor Truck Co., Tacoma, Wash.
Oneida—2, 2½, 3½, 5—Oneida Motor Truck Co., Green Bay, Wis.
Oshkosh—2, 2½—Oshkosh Motor Truck Mfg. Co., Oshkosh, Wis.
Overland—½—Willys-Overland Co., Toledo, O.
Packard—2, 3½, 5—Packard Motor Car Co., Detroit, Mich.
Parker—1, 1½, 3, 3½, 5—Parker Motor Truck Co., Milwaukee, Wis.
Patriot—1, 2, 3—Patroit Mfg. Co., Navelock, Neb.
Penn—2—Penn Motors Corp., Philadelphia, Pa.
Perfection—¾, 1¼, 2, 3—Perfection Truck Co., Minneapolis, Minn.
★Pierce-Arrow—2, 3½, 5—Pierce-Arrow Motor Car Co., Buffalo, N. Y.
Pioneer—1—Pioneer Truck Co., Chicago, Ill.
★Pittsburger—2, 3, 3½—Pittsburgh Truck Mfg. Co., Pittsburgh, Pa.
Power—2½, 3½—Power Truck & Tractor Co., St. Louis, Mo.
Rainer—¾, 1, 1½, 2, 2½, 3½, 5—Rainer Motor Corp., Long Island City, N. Y.
Reo—1¼—Reo Motor Car Co., Lansing, Mich.
Republic—1, 1¼, 1½, 2, 3, 4—Republic Motor Truck Co., Inc., Alma, Mich.
Reynolds—2, 3—Reynolds Truck Co., Mount Clemens, Mich.
★Rowe—1½, 2, 2½, 3, 4, 5—Rowe-Stuart Corp., Lancaster, Pa.
★Ruggles—¾, 1¼, 2, 2½—Ruggles Motor Truck Co., Saginaw, Mich.
Rumely—1½—Advance-Rumely Thresher Co., Inc., La Porte, Ind.
Sandow—1, 1½, 2½, 3½, 5—Moses & Morris Motors Corp., Chicago Heights, Ill.
Sanford—1, 1½, 2½, 3½, 5—Sanford Motor Co., Syracuse, N. Y.
★Schacht—1½, 2, 3, 4, 5—G. A. Schacht Motor Truck Co., Cincinnati, O.
Schwartz—1¼, 2, 3, 4, 5 to 7—Schwartz Motor Truck Corp., Reading, Pa.
★Selden—1½, 2½, 3½, 5—Selden Truck Corp., Div. of Industrial Motor Corp., Rochester, N. Y.
★Service—¾, 1¼, 1½, 3, 3½, 4—Service Motor Truck Co., Wabash, Ind.
★Signal—1, 1½, 2½, 3½, 5—Signal Truck Corp. Detroit, Mich.
★Standard—1¼, 1½, 2½, 3½, 5—Standard Motor Truck Co., Detroit, Mich.
Steinmetz—Steinmetz Electric Motor Car Corp., Arlington, Baltimore, Md.
Sterling—1½, 2, 2½, 3½, 5, 7½—Sterling Motor Truck Co., Milwaukee, Wis.
★Stewart—1, 1¼, 1½, 2½, 3½—Stewart Motor Corp., Buffalo, N. Y.
Super Truck—2½, 5—O'Connell Motor Truck Co., Waukegan, Ill.
Tiffin—1½, 2½, 3½, 5, 6—Tiffin Wagon Co., Tiffin, Ohio.
Titan—2½, 3½, 5—Titan Truck Co., Milwaukee, Wis.
Thomart Speed—1¼—Thomart Motor Co., Kent, Ohio.
Tower—1½, 2½, 3½—Tower Motor Truck Co., Greenville, Mich.
Traffic—1½, 2, 3—Traffic Motor Truck Corp., St. Louis, Mo.
★Transport—1, 1½, 2, 3, 3½, 5—Transport Truck Co., Mt. Pleasant, Mich.
★Traylor—1½, 2, 3, 5—Traylor Eng. & Mfg. Co., Cornwells, Pa.
Triangle—1, 1½, 2, 2½—Triangle Motor Truck Co., St. Johns, Mich.
Twin City—2, 3½—Minneapolis Steel & Machinery Co., Minneapolis, Minn.
Ultimate—1½, 2, 2½, 3, 5—Vreeland Motor Co., Inc., Newark, N. J.
Union—2½, 4—Union Motor Truck Co., Bay City, Mich.
★United—1, 1½, 2, 2½, 3½—United Motor Products Co., Grand Rapids, Mich.
U. S.—1¼, 1½, 2½, 3, 4, 5—United States Motor Truck Co., Cincinnati, Ohio.
Velie—1½, 2½—Velie Motors Corp., Moline, Ill.
Vim—¾—Vim Motor Truck Co., Philadelphia, Pa.
★Walker—½, 1, 2, 3½, 5—Walker Vehicle Co., Chicago, Ill.
Walter—2, 2½, 5, T.T.—Walter Truck Co., New York, N. Y.
★Ward—¼, 1, 2, 3½, 5—Ward Motor Vehicle Co., Mt. Vernon, N. Y.
Ward La France—2½, 3½, 5—Walker Motors, Inc., New York, N. Y.
Watson—1, 3½, 5, T.T.—Watson Wagon Co., Canastota, N. Y.
★White—¾, 2, 3½, 5—White Co., Cleveland, Ohio.
Wilcox—1, 1½, 2½, 3½, 5—Wilcox Trux, Inc., Minneapolis, Minn.
Wilson—1, 1½, 2½, 3½, 5—J. C. Wilson Co., Detroit, Mich.
Winter & Hirsch—2½, 3½—Winter & Hirsch Motor Truck Co., Chicago, Ill.
Winther—1, 1½, 2½, 3, 3½, 5, 7—Winther Motor Truck Co., Kenosha, Wis.
Wisconsin—1, 1½, 2, 2½, 3½—Wisconsin Truck Co., Madison, Wis.
Witt-Will—1½, 2, 2½, 3—Witt-Will Co., Inc., Washington, D. C.
Yellow Cab—¾, 1¼—Yellow Cab Mfg. Co., Chicago, Ill.

NEW COMMERCIAL CARS

Electric Drive for Removable Bodies on Electric Trucks

A NEW type of electric drive for handling removable bodies to and from electric motor trucks has been devised by the Ideal Truck Equipment Co., of 140 South Dearborn St., Chicago, for use in connection with Ideal removable body equipment. This will supplement the hand, hydraulic and transmission operated methods used by this company for the past several years.

The new device, designed by W. M. Baxter, vice-president and chief engineer of the company, is operated by a ¾ hp. motor of the series wound type, running at 5,000 r. p. m. and developing considerably over its rated horsepower. Power is carried to the operating mechanism through two worm gear installations, giving a final gear reduction of 960 to 1.

The motor is mounted transversely under the truck frame in the rear of the cab, and through a worm mounted on its shaft transmits power to a longitudinal shaft, carrying two universal joints, which in turn, through the second worm gear, turns a transverse shaft, on which are mounted two drums 12 in. in diameter, near the rear of the truck frame.

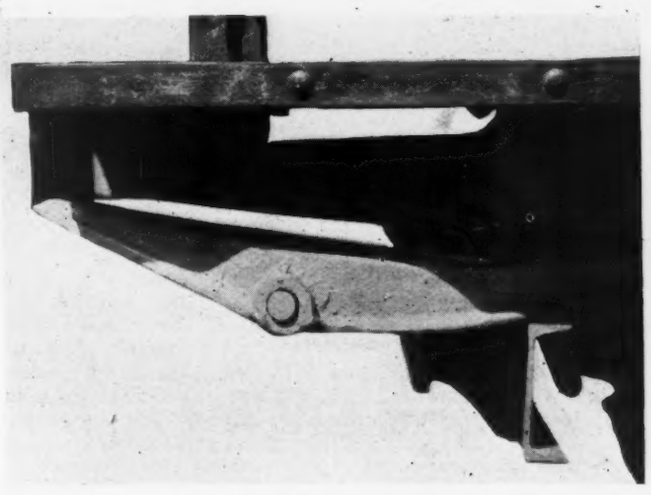
Around these drums pass several turns of ½-in. plow steel cable, which lead forward around two deeply grooved sheaves mounted horizontally and back over two similar sheaves at the rear of the frame, and thence to the drums, forming two endless belts, the inner halves of which are connected by a device which automatically engages in a hook on the removable body, enabling the cable to move the body on or off the truck.

Both forward sheaves are mounted on slides enabling them to move longitudinally, and heavy springs, under compression in these mounts, maintain the cable at proper tension and also absorb shocks that may develop in handling the loaded body.

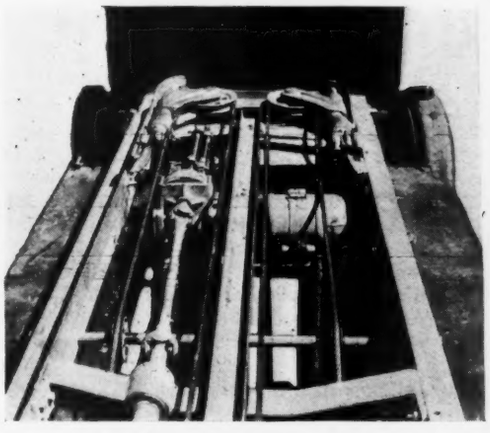
Removes Body in 75 Seconds

With this electrical loading device an empty body may be run off the truck in 45 minutes, and a body loaded with five tons of merchandise is run off onto the warehouse floor or loading platform in 75 seconds. The entire operation is handled from the driver's seat. One lever unlocks the body from the truck frame, and another controls the starting and stopping of the electric motor. An automatic device, positive in action, stops the motor when the body has been run completely on or off the chassis, preventing any possibility of accident to the mechanism in use.

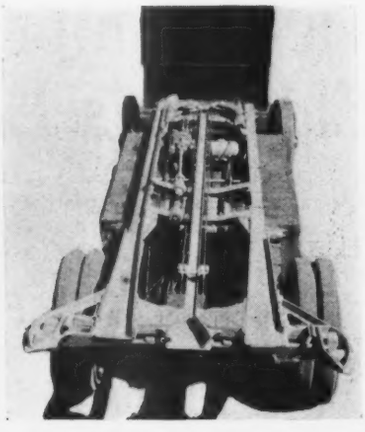
The track mounted on the upper side of the chassis frame, consists of 3 in. x 3½ in. x 5/16 in. steel angles, with the vertical flange of each toward the center of the chassis. The eight rollers, or wheels, mounted on the under side of the removable body, run out on these tracks, and the body is automatically locked to the truck chassis so that there is no



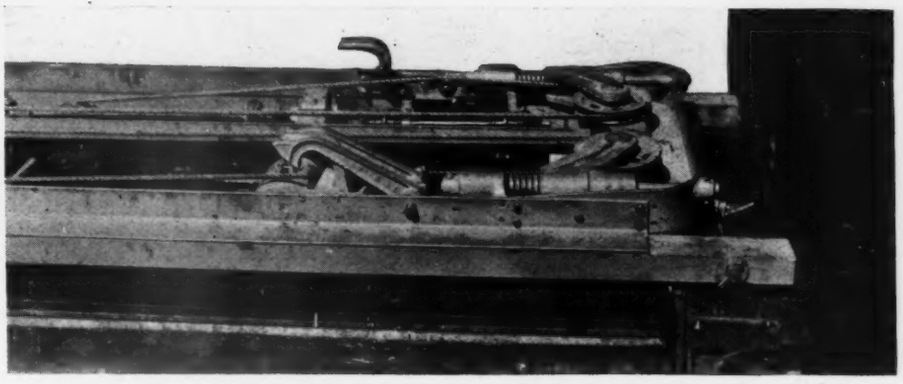
Side View Elevating Shoe



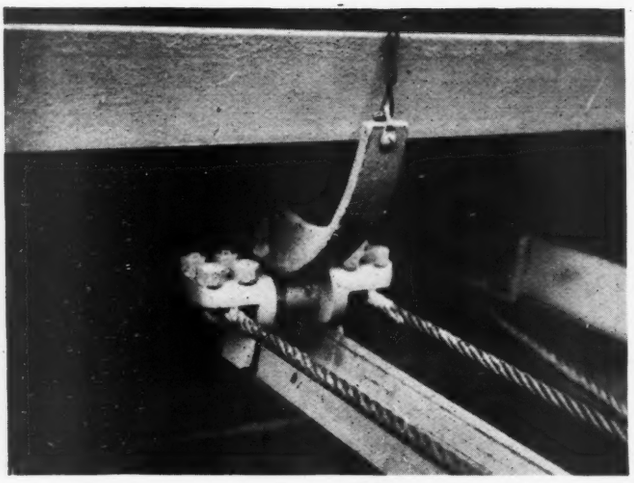
Looking Forward on Body



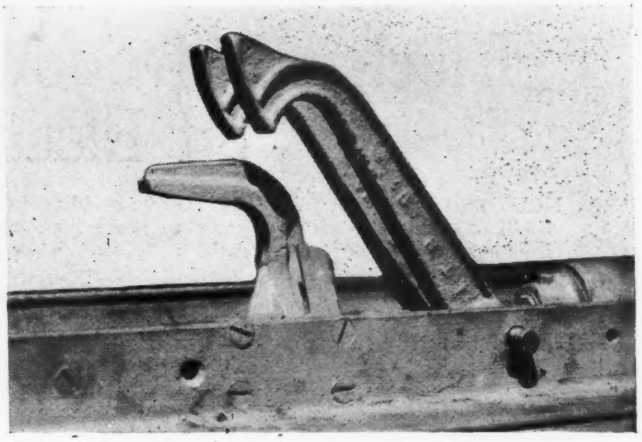
Rear View, Showing Elevating Shoes, Etc.



Side View, Front, Showing Cable Sheaves, Body Holding Down Hooks and Body Locking Device



Left: Clamp on Operating Cables, Which Automatically Engages in Hook on Underside of Body, also Shown



Right: Body Locking Device, Raised. This is Operated From Driver's Seat

possibility of it coming loose in transit.

One objection to removable bodies in the past has been that the height of the loading platform had to conform very closely to the distance from the pavement to the chassis track level. This objection has been entirely met with this outfit, as there is an automatic track elevating device that allows for a variation of either 6 in. or of 14 in. in platform levels.

The rear end of each track is hinged 58-in. inward from the track end, and two elevating "shoes," beveled on their under sides, slide up onto any platform that is higher than the track on the truck. These shoes raise the hinged track to the loading platform level, and the body, loaded or empty, may then be run on or off the truck with ease.

The motor used with this outfit is designed to work on a 44-volt electric truck battery of 22 cells. It handles a 5-ton load, on or off the truck, on a level truck, using but 12 to 18 amperes of current. To run a 5-ton load off to a platform 6 in. higher than the rear end of the truck, over the hinged track, requires but 50 to 70 amperes.

This electrically operated mechanism, complete with tracks, locks, holding down hooks, etc., ready to install on any truck, weighs 900 lb. and is shipped assembled ready to install. The removable body parts, including the rollers, etc., weigh 350 lb.

Three Models Comprise the Day-Elder Bus Line

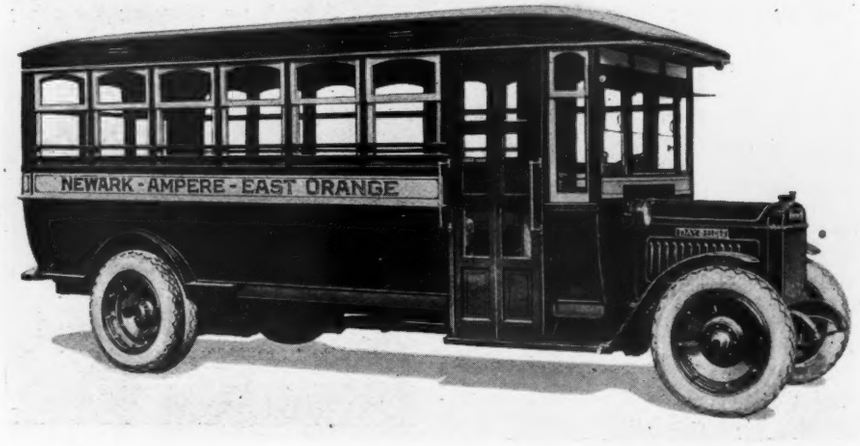
IN its three bus models the Day-Elder Motors Corp., Newark, N. J., is able to fulfill practically any requirement for motor bus transportation. These bus chassis are designated by Models 20, 25 and 30 and were designed to carry bodies accommodating twenty, twenty-five and thirty passengers, respectively.

The following description of the Model 30, differing mostly from the other models only when a Continental engine is employed instead of Buda, which is standard on the two lighter models, will convey a fair idea as to the general construction and assembly of the Models 20 and 25. This job may also be obtained with a Buda engine. Either a Continental, Model B, six-cylinder engine, having a bore and stroke of 3⅝ x 5¼ in. or a Buda, Model YBU of 4¼ x 6-in. bore and stroke, is used in the Model 30. S. A. E. rates the horsepower of the Continental at 31.5. Brake horsepower, however, at 1200 r. p. m. is 42 and at 2500, 70. With this engine the bus is permitted a maximum speed of 35 m. p. h. Full force pressure feed system of lubrication is employed. The cooling system includes a centrifugal pump, sectional cast tank radiator; and a fan mounted directly behind the radiator. Louvers are provided in the hood.

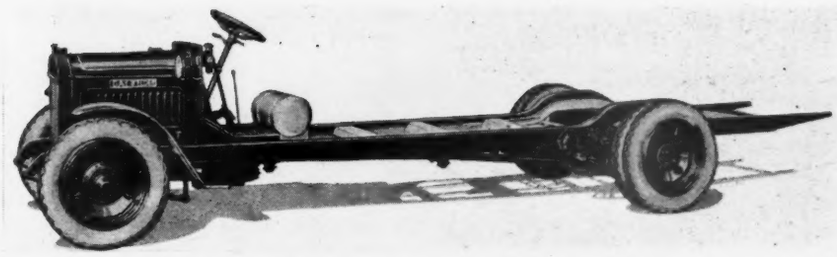
A Zenith carburetor, automatic in action, and with an air temperature regulating sleeve is used. Gasoline is drawn by gravity from a 20-gal., round, seamless, steel tank, heavily, tinned both outside and inside. This tank is also provided with a drain cock and sediment trap. Ignition is provided by an Eisemann high tension, water-proof magneto.

From the engine power is carried back through a Brown-Lipe, dry, multiple-disk clutch to a selective sliding gear type transmission mounted in unit with the engine and providing four speeds forward and one reverse. The ratios are: low, 5.35 to 1; second, 2.81 to 1; third, 1.76 to 1; and fourth, direct, and reverse, 6.25 to 1. Standard reduction at the rear axle is 7 4/5 to 1; other ratios are optional.

The tubular propellor shaft equipped



Day-Elder Buses are Built in Models to Accommodate 20, 25 and 30 Passengers



Side View of a Day-Elder Bus Chassis. Frame Construction Permits a Low-Floored Body

with three 8-in. flexible disk universal joints and supported at the center by a cross member in a special bracket and mounted in self-aligning double row bearing, transmits the power to a Timken 6511-S worm drive, rear axle.

The front axle is of conventional drop-forged, I-beam construction. It is a Shuler Model 610-B axle.

A David Brown, underslung type of worm gear is used in this axle. The worm-gear and differential are mounted as a unit in a carrier bolted to the center of the housing. This assembly is stated to permit quick and easy assembling or disassembling. Drive is Hotchkiss, U. S. Army truck type. The drive and torque is taken through the rear springs of special design, which is claimed to prevent axle shifting. The front springs are semi-elliptic and bronze bushed, and consist of nine leaves, 2½ in. x 42 in. The rear main springs, underslung on the axle, consist of twelve leaves, 3 in. x 60 in. Mounted directly under the main rear springs are auxiliary springs. These springs are designed to absorb re-bound and act as helper springs under heavy load. The assembly consists of nine leaves, 3 in. x 60 in.

The semi-flexible, pressed steel, hot riveted frame is reinforced by six cross-members and is swept up at the rear axle 7¼ in. Braking is provided by two internal expanding type brakes. They actuate on 21 x 3¾-in. drums on the rear wheels.

An adjustable, semi-irreversible worm and gear type steering gear is used. Drive is left-hand with center control.

The metal wheels of this job are equipped with pneumatics, 36 x 6 front, and 36 x 6 dual rears.

The treads front and rear are 68½ in. and 74 in., respectively. The wheelbase is 192 in., and the length overall of frame is 271½ in. Width of frame at rear, 51 in.; at front, 35 in.; dash to rear of frame, 218½ in.; dash to center of rear axle, 159 in.; and height to top of frame, from ground, loaded, at front 23 in., at rear 24½ in.

Standard equipment includes electric head lamps, combination electric and oil dash and tail lamps, electric horn and push button in center of steering wheel, oil can, jack, complete set of tools and high pressure lubricating gun.

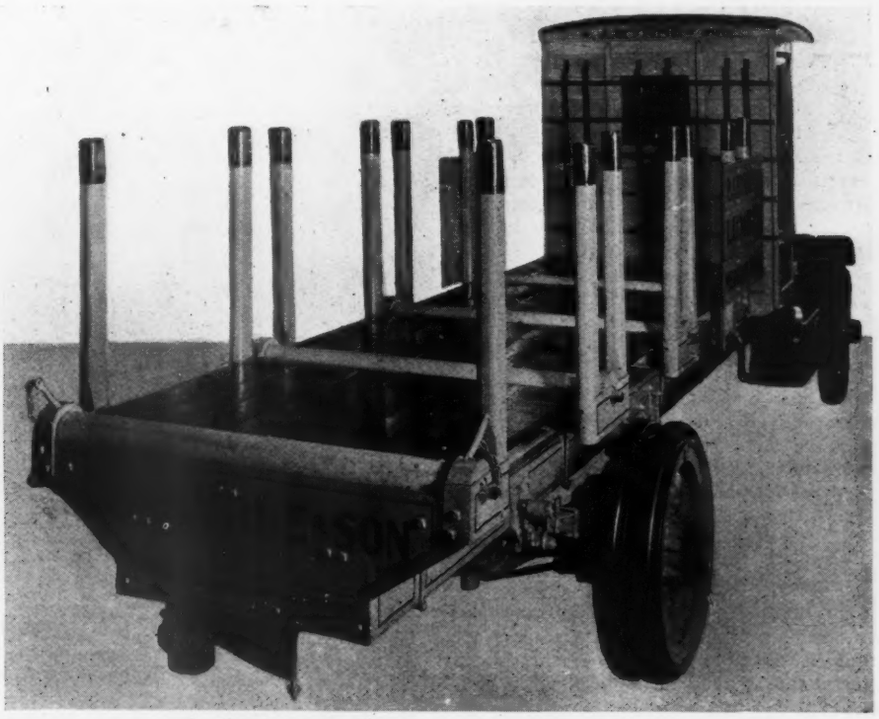
R-B Improved Roller Bed Equipment

MODERN methods and equipment for motor trucks employed in retailing lumber has done away with much waste time in loading and unloading. The R-B Co., Kansas City, Mo., is manufacturing equipment which is declared to double the delivery capacity of trucks not so equipped, thereby reducing the initial equipment investment to one-half. Instead of being idle hours at a time while it is being loaded or unloaded, a truck is kept constantly on the move. One man in one minute can roll a load from a loading wagon to a truck equipped with the R-B Roller Bolster equipment. When the driver arrives at his destination he pulls out the roller lock pins, slips on the unloading crank, and in an instant the load is rolled from the truck to the ground. The load can be rolled from either end of any roller.

The Roller Bolster unit consists of a single steel roller mounted between steel cross members. The set is simply a series of such units fitted to steel sills. Each unit is equipped with light angle steels which are bolted to the top flange of the cross members to hold the flooring in place. The rear bolster varies somewhat from the others in that the cross member at the rear, the end plate, fits flush with the roller allowing unobstructed movement of the load to the ground. The stakes are firmly secured in stake pockets 5½ in. deep. Each set is provided with roller lock pins.

This equipment was designed with a

Close-up of a Roller Bolster Unit



Fully Equipped With R-B Units and Ready for Lumber Service

R-B Equipment is Used in Yards Employing the Tractor and Trailer Type of Transportation

view of eliminating all dead weight. As a result every part performs a distinct and important operation. The steel sills for example are just as important as the rollers. They protect the truck from danger of breakage. During the roll off operation, the entire weight of the load rests on the rear end of the truck frame. The severe "upset" strain coming just forward of the rear wheels, is stated to be entirely absorbed by the steel sills. The cab is fully protected by a bumper unit. Besides protecting the frame, the steel sills keep the rollers in rigid alignment. The total weight of both sills and rollers is stated to be less than the truck maker's bed allowance on any size truck.

This equipment can be mounted on any truck in a comparatively short time with but the use of a monkey wrench. This is made possible because the sills before leaving the factory are drilled and fitted to the units. The entire unit is then dismantled and the drill holes numbered to correspond with each other. The set is then shipped knocked-down. All that is then required of the man assembling the set to the truck is to fasten the sills to the truck chassis with U-bolts, bolt rollers to the sills, and insert the stakes into the stake pockets.

Included with the set is a specially designed double acting ratchet unloading crank. The ratchet action not only makes the unloading operation much easier, but entirely eliminates any danger to the operator due to crank spinning. With this tool the load can be rolled from either end of any roller. This flexibility of operation eliminates the necessity of chains or gears.

The sets are made for mounting on either trucks or trailers. The truck sets vary in price in accordance with the truck capacity and the number of units necessary for a particular truck. The prices approximately range from $254 to $340 for a complete set.

Farrel Tanks for Trucks

THE Farrel Manufacturing Company, 549 Washington Blvd., Chicago, Ill., is manufacturing a line of tanks for mounting on any make or capacity of truck chassis. All Farrel units regardless of size or shape are designed to endure rough going on country roads. They are flexible to road shock, eliminating all possibility of metal crystallization. The tanks are offered in all shapes: round, elliptical and semi-rectangular and are designed to distribute the load properly over the entire truck chassis.

For standard commercial use this company has produced a complete line of elliptical compartment tanks of standard capacity. These are built to specification as to number and sizes of compartments for any make of truck. Each compartment is a self-contained unit of separate construction, thereby eliminating every possibility of cross leakage or damage to one compartment placing the others out of commission. These compartments are coupled together by a channel shaped steel band, which allows a flexible construction and prevents crystallization. An open space between the compartments permits the absorption of all strains due to rough roads, and makes each compartment an independent unit.

The underframe is made from heavy seasoned oak, bolted throughout. The heavy sills are attached to the chassis by U-bolts of a size giving a large factor of safety. The bolsters support two heavy runners that make a cradle which supports the tank throughout its entire length. These bolsters are of sufficient length to support the side racks which are of large carrying capacity. The racks are equipped with sign boards of sheet metal, well braced, or pipe railing to meet any requirements.

Bucket boxes are mounted on the sills eliminating any strains on the tank compartment. Standard construction is wood with metal roof and metal lining on floor, assembled with bolts and screws only. This design allows for extra storage on even the smaller capacity tanks.

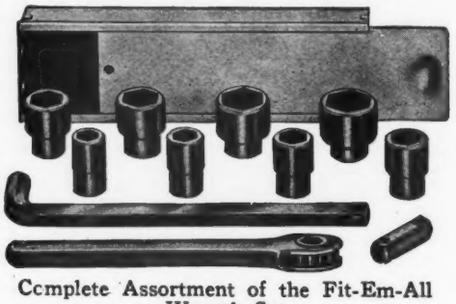
The filler plugs are made with standard 6-in. iron pipe size thread, each being equipped with air vent to maintain atmospheric pressure under all conditions. Where desired 14-in. manholes can be furnished at extra charge. Outlets are of standard malleable fittings, mounted to eliminate any strains. Wheaton Endurance Faucets are standard equipment.

Farrel Semi-Rectangular Tank Mounted on a Ford Chassis. Note the Three Different Sized Compartments and Filler Caps

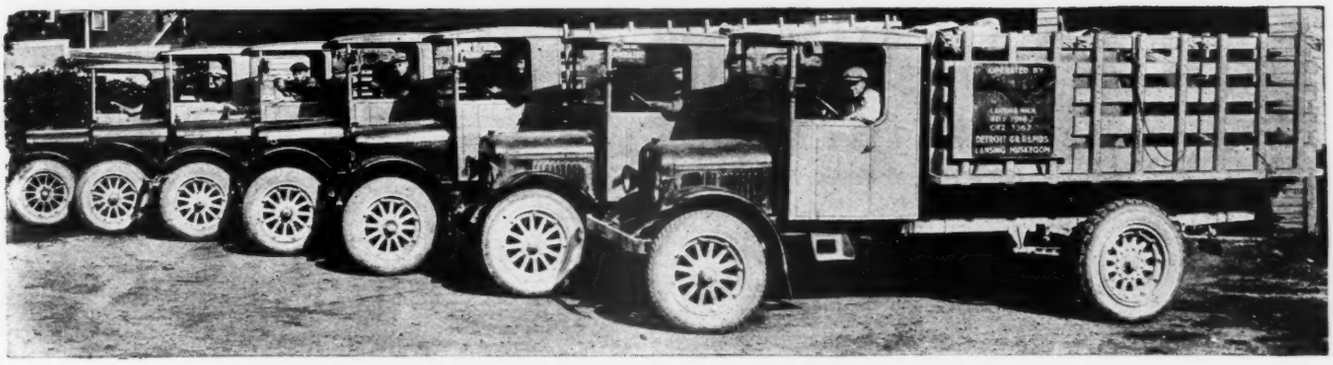
Ratchet Wrench Set

The Fit-Em-All Wrench Set offered by the Precision Products Co., 322 Cherry St., Jamestown, N. Y., consists of eight hexagon sockets, 7/16 to 15/16, one extension plug, one bent handle and one positive ratchet, allowing 24 different combinations.

The extension plug and bent handle bring the inaccessible places within easy reach. The set is made of a select grade of steel, cyanide hardened, and comes in a compact case as illustrated. It is equally suitable for the owner and mechanic. The material and workmanship are covered by a direct factory guarantee. Price, $2.10.



Complete Assortment of the Fit-Em-All Wrench Set



Ruggles Dealers Pile Up Sales Throughout the Country

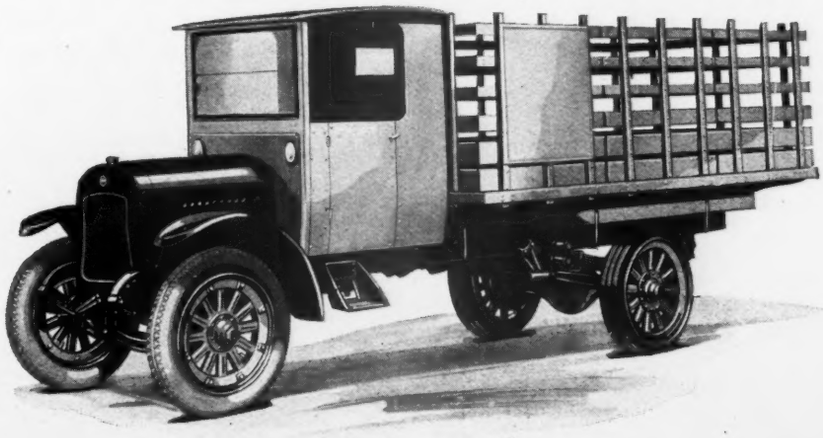
Sales in single units and in fleets prove to dealers the money-making power of a Ruggles franchise. New dealers are constantly awaking to the opportunity and asking for territory.

The Ruggles dealer sells a quality job that justifies his most enthusiastic sales talk. Engine, clutch, transmission, axle—every part is equal or superior to those in trucks costing much more than the Ruggles.

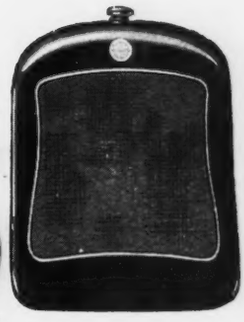
Five models ranging from 1,500 to 5,000 lbs. capacity, and two special bus models give the Ruggles dealer a complete line that meets every demand. He is in a position to dominate the motor truck trade of his territory.

If you can sell high-grade trucks at attractive prices, write us for details of the Ruggles franchise.

RUGGLES MOTOR TRUCK COMPANY, *Saginaw, Mich.*
Canadian Factory: **Ruggles Motor Truck Company, Ltd., London, Ontario**



RUGGLES



The World's Greatest Truck Value

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TRUCK EQUIPMENT AND APPLIANCES

The Bosch "Armored" Ignition Coil Types TC-30 and TC-40

THE American Bosch Magneto Corporation, Springfield, Mass., recently developed a new high-tension ignition coil. It represents a rather definite advancement in the construction of ignition coils, both as to design and production.

The new coil is staunchly and durably built. Because of its steel housing and solid unit construction, the new coil has been christened the Bosch "Armored" Coil.

This coil is arranged for use with those timer-distributors having a condenser as part of their construction. It differs from the previous Bosch types TC-4 and TC-20 in that the windings, magneto circuit and all other internal parts are encased in a waterproof and moisture-proof housing, the internal parts being impregnated with an insulating compound making the entire structure a single-moulded unit which in no way can be affected by vibration, moisture, heat or atmospheric conditions of any kind.

The armored cylindrical housing, which surrounds the internal parts, thoroughly protects the coil from physical damage. Its bakelite head-piece provides perfect insulation between the high and low-tension terminals and to the ground, besides giving a pleasing, high-class finish to the coil.

The windings are arranged in rather an unusual manner in that the primary winding which carries the low-tension current is wound around the outside of the high-tension secondary winding.

Thus, the heat usually generated in the windings is readily dissipated through the adjacent steel casing. This feature, together with the electrical and magnetic characteristics included in the coil, eliminates the necessity for a resistance or ballast unit, which is commonly located on the external shells or housing of the coil.

An insulation tube, surrounding a large number of small high-grade iron wires, forms the central unit of the winding. On this is wound a single layer of heavy wire terminating at the top of the tube, thus making it possible to lead directly from the beginning of the secondary winding to the high tension terminal without a joint of any kind being required. On this first layer of wire is built up the remainder of the secondary winding, made up of many thousand turns of fine insulated copper wire.

In addition to the insulation of the wire, each layer of wire is insulated or protected from the preceding one by a special material. The windings do not depend upon subsequent impregnation for insulating the many layers of windings from each other.

To establish even a greater factor of safety from leakage or breakdowns between layers, additional insulations are included between certain layers which are continually subjected to the excessive electrical stresses.

Since the primary of the Bosch Coil is the final winding, and since comparatively few layers are required, the heat generated in the primary is readily dissipated to the exterior steel shell.

Inasmuch as the exact length of the primary winding is of extreme importance to the uniform functioning of ignition coils, the outside diameter of the secondary winding is equalized to gage before the primary winding is started.

The first and last turns of the primary are led directly to the low-tension terminals so that here also no joints of any kind exist and by employing an even number of layers, the length of both leads is brought to a minimum. The outside turn of the secondary is connected to the inside turn of the primary by hand-soldering the two, and protecting them electrically and mechanically.

The primary and secondary windings are made into a single and complete unit by wrapping the entire coil with bands of insulating and protecting material.

The magnetic circuit is made up of silicon iron. Inserted in the center of the coil and forming the central core is a bundle of these wires of very fine diameter and of a character claimed to prevent eddy-current losses. Entirely around the outside of the coil is a cylindrical shell of the same material arranged similarly to prevent eddy-current losses.

When the coil as previously described is lowered into its armored housing, the magnetic circuit as described is placed into position.

The windings, central core and outer shell of the magnetic circuit are supported on an artificial stone base of high insulating qualities. This gives a solid foundation to the entire structure. Another insulating stone-piece is placed on top of the winding and fills the space between the winding and the moulded top or terminal piece, so that should the coil be mounted in an inverted position, neither the core nor the windings will shift within the housing.

The coil in this form and without its cover in position is placed in a special oven, thereby extracting and dissipating every particle of moisture.

While the coil is at this high temperature, a sealing compound is forced into the container and the entire unit is sealed into one mass, so that moisture cannot possibly enter into the windings or coil housing and cause difficulties.

The insulated top or terminal top piece, which is

Complete and Sectional Views of the Bosch TC-30 Ignition Coil

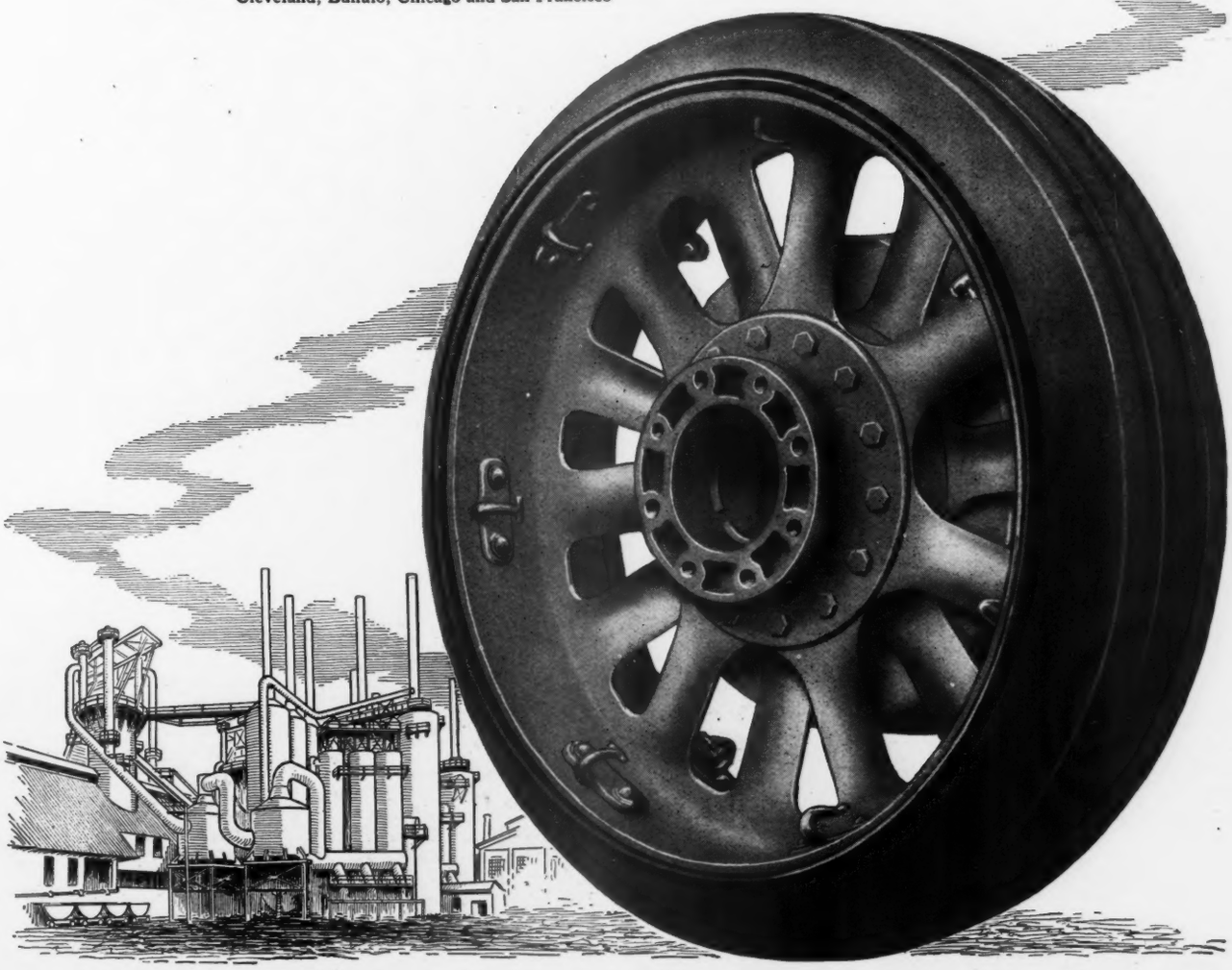
The primary is outside of the secondary coil, permitting heat generated in the windings to be quickly dissipated through the steel casing. A double row of iron wires arranged vertically around the inside of the shell makes a strong magnetic circuit for the iron wire core and prevents eddy-current losses.

Built of rolled steel

THE Bethlehem Rolled Steel Truck Wheel is entirely a Bethlehem product. Every step in its manufacture, from the rolling of the special I-beam from which the wheel structure is made, straight through to the painting of the completed wheel is carried out by the Bethlehem organization. Thorough and critical tests have established the advantages of the rolled steel construction of the Bethlehem Wheel, and demonstrated the unvarying good service of which it is capable. The Bethlehem Wheel contributes definitely and substantially to the usefulness and economy of the finest trucks.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

Sales Offices in New York, Boston, Philadelphia, Washington, Pittsburgh, Detroit, St. Louis, Baltimore, Atlanta, Cincinnati, Cleveland, Buffalo, Chicago and San Francisco



BETHLEHEM

ROLLED STEEL TRUCK WHEELS

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moulded into and surrounded by a metal ring, is put into position and the metal ring and housing of the coil are then soldered together, hermetically sealing the entire unit.

The cylindrical housing which surrounds and protects the internal parts, is of steel with joints carefully crimped and soldered, and its surface protected against oxidation.

The terminal, or top piece, has three outlets. The center is made up in tower-form and is for the high-tension connection. The two low-tension terminals are formed by screw studs. The connections from the windings to these terminals are effected by threading the wires through small openings in the terminals and pulling the wires taut to eliminate slack inside the coil housing, and soldering them tight and secure. All connections, although soldered firm and made air-tight, are so arranged that they are visible for inspection from the outside.

The coil finish is high gloss baked black enamel, which gives the unit an excellent quality appearance. The mountings are of two types: Type TC-30 being the flange type, and TC-40, the base type, so that the coil may be mounted against the dash or engine in any position or upon a base, as on a base-mounting ignition unit or on the top of a generator, etc.

The new Bosch Coil can be supplied to operate with 12 volts, the size and form of the coil being identical, the only difference being in the windings.

North East Generator for Bus Lighting

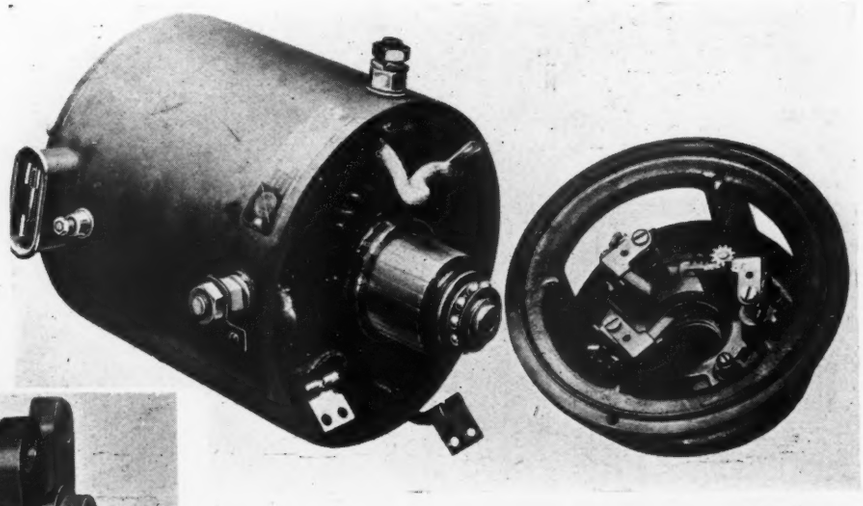
THE North East Electric Co., Rochester, N. Y., recently brought out a new heavy duty generator known as the Model LG for bus lighting work. It is a 12-volt machine and has an output rating of 300-watts continuous running with a temperature rise not in excess of 175 degrees F. It has a maximum output of 20 amps. available at 1450 and the cut-in point at which it begins to deliver current to the battery in 850 r. p. m.

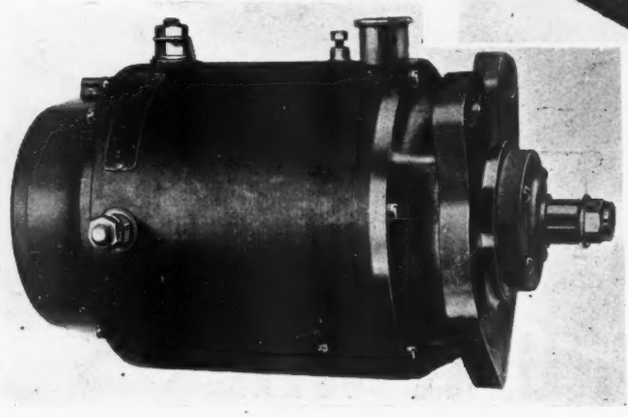
Mechanically this new Model LG is similar to the Model GA starter-generator, standard on Dodge Brothers cars. The diameter of this unit is 6 9/16 in. and its over-all length is approximately 11 in. It is a 4-pole shunt wound generator and its output is controlled by 3rd brush regulation. The output is readily adjustable to any desired setting from full rated output down to less than ¼ of the maximum value. The output adjusting mechanism, which consists of a rack and pinion movement between the 3rd brush supporting plate and the adjusting stud, is simple and positive and is entirely accessible from without. The brush rigging is of special design employing the reaction type of brush-holder. This improved form of holder insures practically perfect commutation and minimizes brush wear to such an extent that the life of the brushes is more than doubled.

As a supplement to the 3rd brush regulation, the North East Electric Co. developed a voltage regulator which gives an ideal charging characteristic. This regulator is very rugged in its construction and is totally unaffected by load changes, temperature or vibration. It will hold voltage extremely constant even on open circuit. Through the use of this regulator the generator output is automatically cut down as the counter-voltage of the battery rises as it becomes charged. In this way the generator output is reduced to a negligible quantity when the battery is fully charged, provided no lamps are burning. But whenever lamps are turned on it will permit the output to increase sufficiently to pick up the additional load without affecting the condition of the battery. This regulator is especially designed for the type of service encountered in the bus field and has exceptionally durable contacts which will operate indefinitely without change of setting or possibility of sticking or burning.

The generator is provided with a field fuse to give protection in case of open circuits, loose connections or grounds and this fuse is enclosed in a small housing conveniently located on top of the field frame. The binding posts are extra heavy to permit of the use of substantial terminals on the car wiring. An external ground strap is provided for grounding one binding post to the field frame, where the generator is used with the ground return system. This external ground strap facilitates testing and also makes it possible to use the same machine either with two wire full insulated circuits or with ground return circuits. The polarity of the generator is automatically reversible and will adjust itself to the polarity of the battery regardless of which way connections are made.

It is recommended, however, that the positive terminal always be grounded so as to conform with the S. A. E. recommended standard.

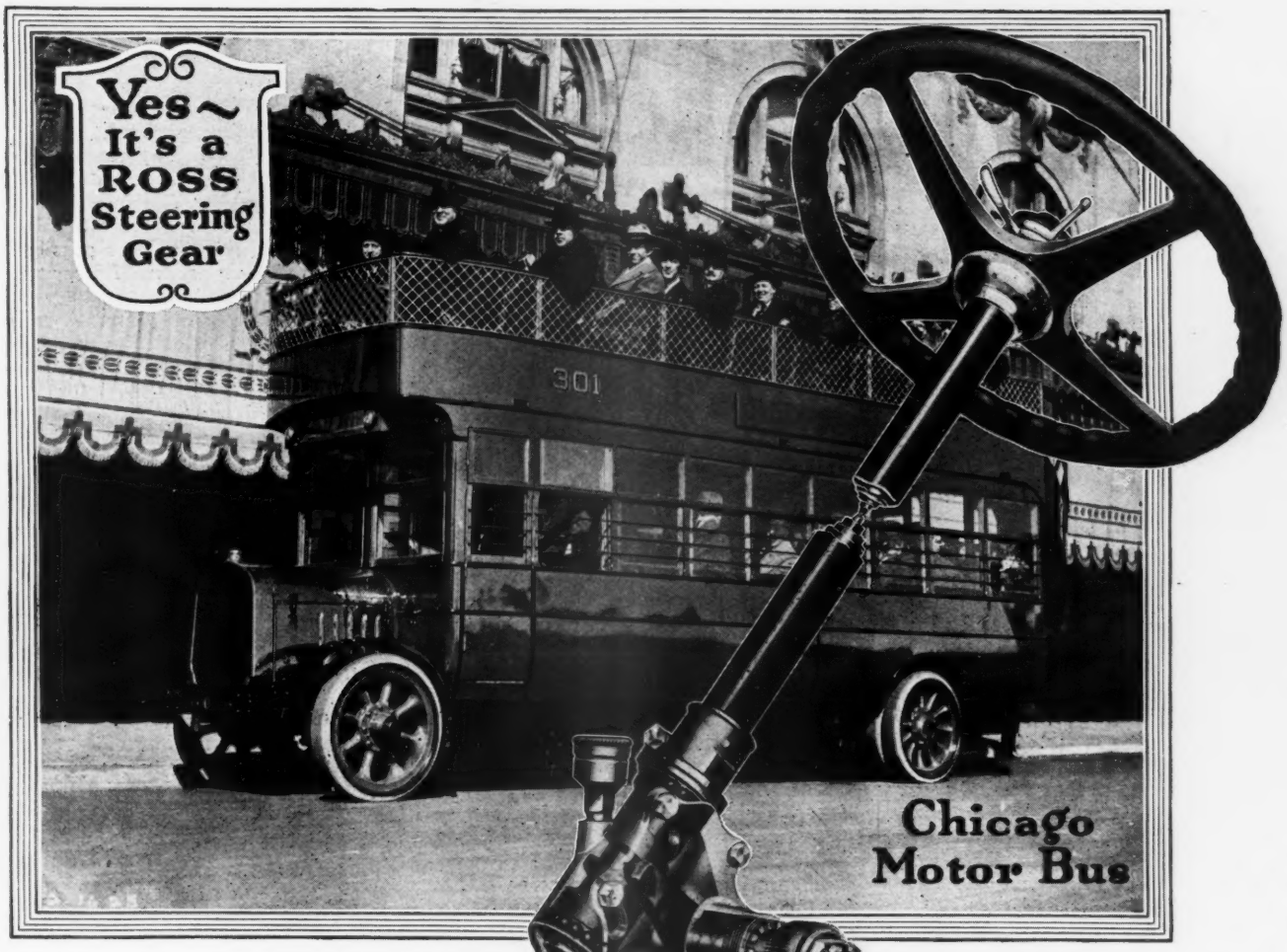




Above: North East Model LG 300 Watt Generator Showing Commutator and Brush Rigging

Left: Same Model With Flange Mounting

These machines are designed to be driven at from one and a half to twice engine speed and have a safe operating range up to 5000 r. p. m. They are regularly furnished for coupling drive and the double disk type of coupling is recommended. Gear or chain drive can be used where necessary, although in the latter case only an enclosed thoroughly lubricated chain is advisable.



Ross Steering Gears have been used for many years as standard equipment on the familiar motor buses of Michigan Boulevard and Sheridan Road.

Easy Steering for the Driver
Safety for the Passengers

Motor bus manufacturers and motor truck manufacturers who are making motor buses are realizing more and more the responsibility involved in the transportation of human passengers. One of the surest ways of providing the highest degree of safety for the passengers is to use a steering gear that will give the driver the easiest and most complete control of the bus.

The new Ross Cam & Lever Steering Gear combines small size and simple construction with a maximum of power, reliability, safety and service. The long lever arm inside the gear develops such enormous power that steering is surprisingly easy under all conditions. In straightaway driving, it is so irreversible that practically all road shock is eliminated. In turning, the variable pitch of the cam produces a unique accelerated action at either extreme, which facilitates quick and easy control.

For superior steering service, investigate this new gear. Full information on request.

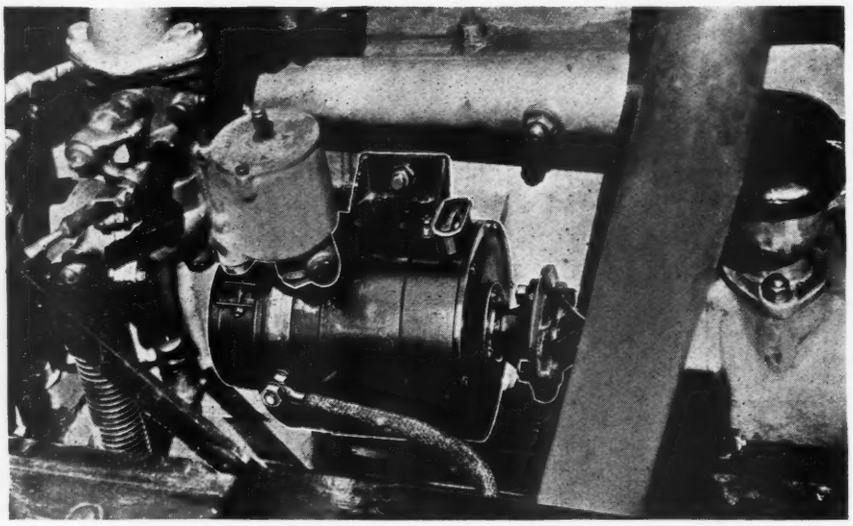
ROSS GEAR & TOOL COMPANY
760 Heath St. Lafayette, Indiana, U.S.A.

Steering Gears
for
Passenger Cars
Motor Buses
Motor Trucks
Fire Trucks
and
Tractors

ROSS STEERING GEARS

POWER~SAFETY~RELIABILITY ~ and EASY STEERING

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION



5th Avenue Coach Application of the New North East Generator

There are two styles of mounting available: One for cradle support and the other for No. 2 S. A. E. flange.

The cut-out furnished for use with this machine is the standard North East Generator Cut-out, which is built as a separate unit and can be mounted on the dash or any other convenient location.

Since the success of the electrical system is just as dependent upon the battery, the body wiring and the lamps and switches, as it is upon the generator, these items should always come in for their full share of consideration in conjunction with the main electrical units. With the battery it is especially important to use sufficient capacity to accept the full charging current without undue rise in counter-voltage and also to take care of the lights properly during loading and unloading waits at terminals when the generator is not running. The battery should always be securely fastened down to prevent undue vibration and covered to protect it from dirt, grease and moisture. It is essential, however, to have the battery located so that it is readily accessible for inspection and particularly for refilling the cells with water. The battery terminal connections should always be of ample size to carry full load without appreciable voltage drop and they should be securely fastened to prevent loosening up in service. Corrosion of the terminal connections should be guarded against as much as possible by keeping the terminals coated with vaseline or some other protecting agent.

The wiring of both body and chassis should always be installed with the utmost care. Only the highest grade of wire with first class insulation should be used and every wire should be securely fastened in place at frequent points. The terminal connectors on the wires should be of the type that clasp the insulation as well as the wire. Every splice and terminal connector should be well soldered and protected by tape. All ground connections should be made secure by use of lockwashers, and dirt or paint carefully removed at points of connection to insure good contact.

The general lay-out of the wiring and especially the size of wire for the various circuits is a matter of such importance that the North East Electric Co. has made up a standardized diagram presenting what appears to be the best practice in this respect. As to wire sizes the recommendations are: No. 8 for the charging circuit from generator through the ammeter and cut-out to the battery and for principal lighting mains carrying full lamp current; No. 12 for the lighting circuits carrying only part of lamp load; No. 14 for the individual lights and other circuits carrying less than one amp; No. 00 for the starting circuit. All lighting circuits should be properly fused.

For lights, 21 C. P. gas-filled bulbs should be used for interior illumination and the single contact type is recommended wherever possible because of superiority over double contact. In case of two wire lighting circuits single contact bulbs can be used by connecting common return wire to socket of fixture instead of to bullb. The interior lighting arrangement should be scientifically laid out so as to give the best possible distribution of illumination. Efficient reflectors or globes should be used to give good diffusion so as to avoid glare. A sufficient number of lights should be used to give an illumination of approximately 6 foot-candles at the reading level for all passengers, this being the requisite illumination for reading news print with ease.

In addition to this 300-watt generator, the North East Electric Co. is also bringing out a still larger machine Model LF of 600-watts capacity. Except for the mechanical dimensions, the general characteristics of this larger machine are the same as the 300-watt. The diameter of the 600-watt generator is 7½ in. and the overall length is approximately 11¾ in.

With these two new models, together with the standard LA 150-watt automobile generator, the North East Electric Co. has a very complete line of bus lighting equipment for meeting the special requirements of bus service. The two smaller Models LA and LG are already in general use on buses built by the Fifth Avenue Coach Co., Yellow Coach Co., White, Reo, Selden and F. W. D. and have also been adopted as standard by the New York State Railways.

New Fyrac Spotlight

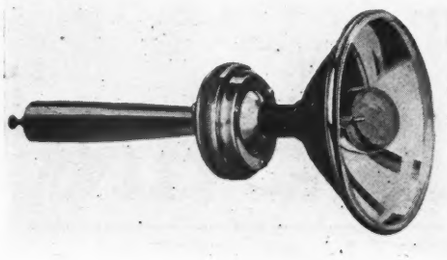
The Fyrac Manufacturing Co., Rockford, Ill., is placing on the market a new spotlight of the through-the-windshield type which embodies some unique points.

One of the biggest features of this spotlight is a patented method of installation which enables the dealer to install it through the windshield in ten minutes or less.

A special glass cutting tool is supplied to Fyrac Spotlight dealers, and this tool enables the dealer to cut a hole in the windshield without removing the glass.

The cutting tool fits any windshield, and can be placed in any desired place on the windshield. It cuts a smooth round hole of the exact size required for the Fyrac Spotlight, in two minutes or less.

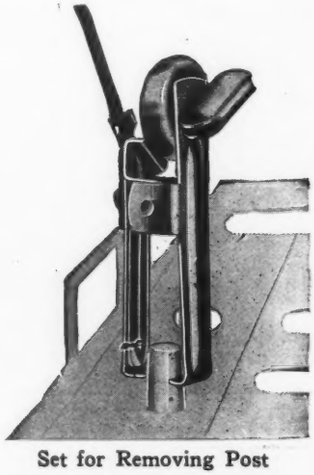
This spotlight is made entirely of aluminum and weighs only 1¼ lb. It operates on a ball swivel joint, throws a shaft of light for 1500 ft. in any direction and is so constructed that it will positively hold any position in which it is placed.



Latest Spotlight Development

Forest Clip

The Forest Clip manufactured by the Forest Electric Co., Green and Columbia Sts., Newark, N. J. is not a spring clip, but a mechanically made contact, which is simple to handle. The eccentric cam (circular wedge) imbeds the teeth of the clip deeply into the lead post or terminal of the battery, thereby insuring a positive and permanently tight contact.



Set for Removing Post

A Nation-Wide Service for Russel Users

To supplement the truck dealers' stocks and to assure prompt service to owners everywhere, this nation-wide chain of Russel Stations has been established.

It gives an added sales argument to Russel-equipped trucks, for it gives to truck operators an added assurance of freedom from delay.

And it relieves the dealer and factory from the expense and trouble of small rush parts shipments.

It is another big reason why your trucks should have Russel Axles.

Coast to Coast Service

Supplementing the truck makers' facilities, Russel parts stocks are maintained at the following points:

Motive Parts Corp., 796 Tenth Ave., New York, N. Y.
W. B. Bearing Co., 452 N. Broad St., Newark, N. J.
Swain-Hickman Co., 2116 Market St., Phila., Pa.
Swain-Hickman Co., Harrisburg, Pa.
Motive Parts Co. of Pa., 237 N. Sheridan Ave., Pittsburgh, Pa.
E. A. Jenkins, Columbia, S. C.
Sanders Truck Co., 12th and McGavock Sts., Nashville, Tennessee
Motive Parts Co. of America, 1907 E. 13th St., Cleveland, Ohio
Motive Parts Co. of America, 116 E. Spring St., Columbus, Ohio
Harry P. Anderson Co., 5948 Second Blvd., Detroit, Michigan
T. H. Baker Truck Service & Storage, 906 Chippewa St., Flint, Mich.
Northern Automotive Supply Co., 5th and Saginaw Sts., Bay City, Mich.
Automotive Supply Co. 219 Tuscola St., Saginaw Michigan
Automotive Parts & Service Co., 317 Kalamazoo St., Lansing, Mich.
Wilbur E. Smith, 737 Bond Ave., Grand Rapids, Michigan
Motive Parts Co. of America, 506 N. Delaware St., Indianapolis, Ind.
Motive Parts Co. of America, 2311-15 Indiana Ave., Chicago, Ill.
Motive Parts Co. of America, 1204 W. Grand Ave., Des Moines, Iowa
Buda Engine Service Co., 3923 Washington Ave., St. Louis, Mo.
Auto Parts Supply Co., 1518 Grand Ave., Kansas City, Mo.
Patriot Truck Co., 7 W. Main St., Oklahoma City, Oklahoma
Gaines Motor Sales Co., Wichita Falls, Texas
Buda Engine Parts Co., 1055 Broadway, Denver, Colo.
Lambert Garage Sales Co., 357 Van Ness Ave., San Francisco, Cal.
Lambert Garage Sales Co., 1416 S. Los Angeles St., Los Angeles, Cal.
Bearing Supply Co., 223 D St., Marysville, Cal.
Coast Motor Parts Co., 1265 Fourth St., San Diego, California
Oregon Parts Company, Sixth and Flanders, Portland, Oregon
Hayes-Anderson Co., Vancouver, B. C.
Motor Service Corp., Monte 483, Havana, Cuba

Russel Motor Axle Company

Division of McCord Mfg. Co., Inc.

DETROIT MICHIGAN

Russel
MASTER OF ROAD AND LOAD
TRUCK AXLES

Sherman Battery Charging Generator

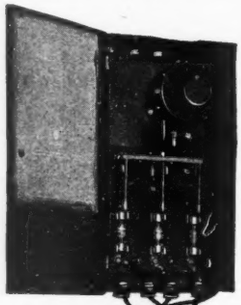
BATTERY upkeep and depreciation constitute the biggest item of expense with an electric. This item can be greatly reduced by proper care of the batteries, and this depends largely on the apparatus used. Proper provision for battery charging is absolutely essential to secure complete satisfaction from any electric vehicle.

The Sherman Generator, made by the H. B. Sherman Mfg. Co., Battle Creek, Mich., is described as being powerful, reliable and moderately priced.

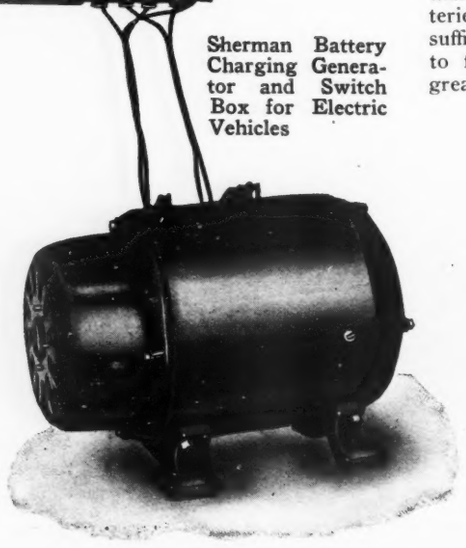
The Sherman Battery Charging Generator consists of an A.C. motor driving a D.C. generator, the motor taking current from the supply line, the generator making the D.C. current necessary for the batteries. Both are mounted in a single frame with one shaft and two bearings. All parts are generously proportioned. In operation the machine is quiet, smooth running, and cool. To start it is only necessary to plug in the vehicle and throw one switch.

The maximum charging rate at starting is 50 amp. This ample size permits short, powerful boosting charge when extra mileage is required, but time is not available for full charge. This greatly increases the usefulness of truck.

The minimum rate is 8 amperes or less —the necessary finishing rate to save batteries from harm in unattended charging and to give the periodic overcharging which battery makers recommend to keep batteries in perfect condition.



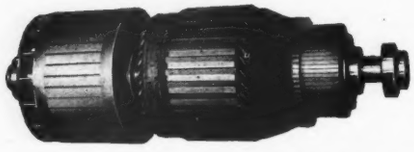
An inclosed panel box containing switch, rheostat and fuses is furnished with each set. It is regularly furnished for 110 or 220 volts, 60 cycle, alternating current. It is, however, furnished to order for 220 or 440 volts, 60 cycles. Shipping weight complete approximately 400 lb.



Sherman Battery Charging Generator and Switch Box for Electric Vehicles

Charging Methods

When a complete charge is desired the truck is simply put on charge and left to run unattended until convenient to cut off. It will start charging at a high ampere rate depending on condition of battery—and will automatically taper down into battery voltage rises until it reaches the minimum of 8 amp. and will continue at that rate until current is cut off. Should it continue a long time after full charge is reached the little current is consumed and the batteries are benefitted as this overcharging is recommended to prevent sulphating. Should the supply current be suspended the charge will continue operating on small amount of current drawn from batteries, but not charging, and will resume its work automatically when current resumes.



Complete Rotor. Note Sturdy Construction and Big Commutator

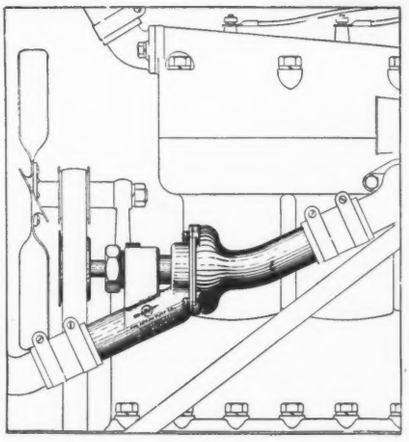
A battery of 42 cells of 13 plates can be completely charged in about 8 hours from complete discharge. Less time is required if only partly discharged. It is much better to charge often than wait for batteries to run low.

The rheostat should be set at a point which experience shows will produce the 8 ampere finishing rate. This need be done very seldom as the condition and age of batteries changes and if marked on dial and knob it can be reset without trouble.

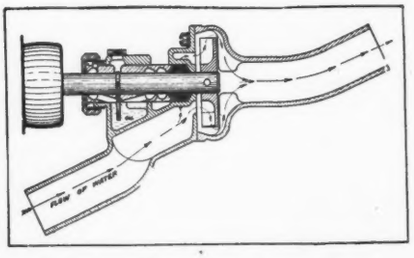
By opening rheostat to cut out all resistance and running for a short period with full available charging rate the batteries may be very rapidly recharged sufficiently to add the necessary mileage to finish the work required when it is greater than an ordinary charge permits.

"Aro" Water Pump for the Ford

The Arrow Pump Company, Buhl Bldg., Detroit, has incorporated its ring oiled gland and bearing feature in a water pump for the Ford engine. This centrifugal pump has the necessary capacity and pressure to break up the steam pockets which form in the water jacket and cause engine overheating. A small agitator, much less thermosyphon, is ineffective for the reason that they have not the capacity or pressure to make a positive circulation.



Showing How and Where the Pump is Assembled



Cross Section of the Arrow Pump

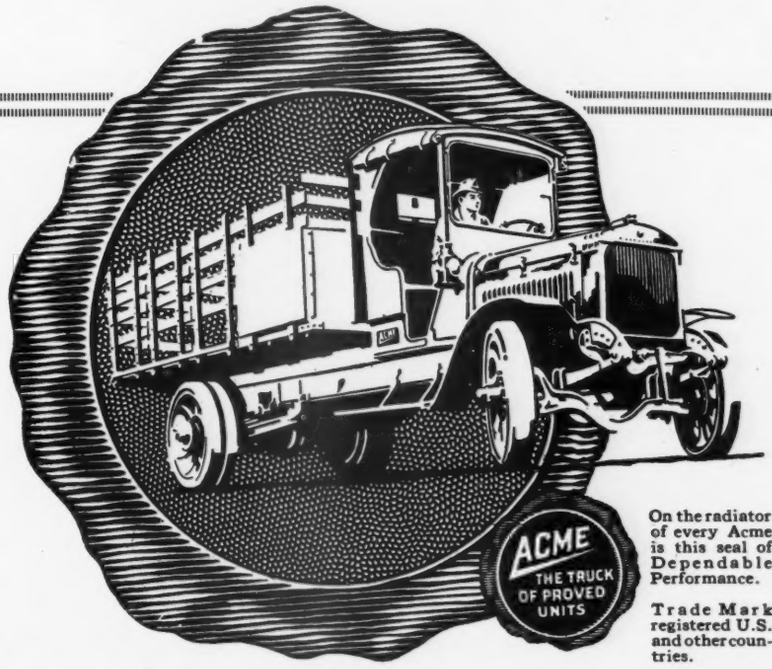
There is nothing about the centrifugal pump to give trouble when the bearing and method of lubrication is correct in design. The cross section view shows how the Arrow construction takes care of this vital part, the bearing protecting it from contact with the hot water and automatically supplying lubrication upon which the life of any bearing depends.

The Arrow construction provides a ring oiler that delivers oil to the bearing from a large oil well at each revolution of the shaft. With this dependable lubrication to insure a cool bearing it is practical to place the packing between the hot water and the bearing which prevents everything but oil from coming into contact with it. Installation of this pump is very easy, as shown on the installation diagram. No alteration of the engine is required.

The manufacturers state that the excessive use of oil scored cylinders and the many other items of expense experienced by Ford users through engine overheating will be eliminated by their pump keeping the engine at proper temperature.

Parker Motor Truck Company is Reorganized

The incorporation of a new company under the laws of the State of Wisconsin marks the completion of the reorganization of the Parker Motor Truck Co., of Milwaukee. John E. Tracey will continue as vice-president and general manager of the new firm. The capital consists of 2000 shares of common stock without par value.



On the radiator of every Acme is this seal of Dependable Performance.

Trade Mark registered U.S. and other countries.

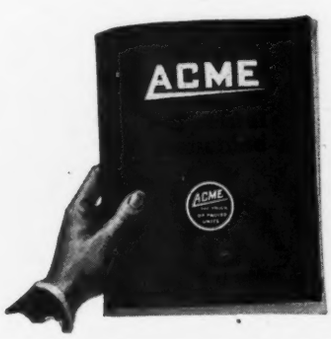
ACME Franchise

Money-Maker for Dealers

The popularity of the Acme Truck is reflected in the prosperity of Acme dealers. The stability of this business is proved by the salability of this famous Truck of Proved Units. Our dealers regard their Acme Franchise as a business asset of unusual value. It *is* a real trade-maker—a pledge of our co-operative service in helping to locate prospects, close and finance sales. It is years ahead of general practice—marking a new era in truck selling.

If the Acme Franchise is not yet granted in your territory, write us at once for information about Exclusive Selling Rights. It is your opportunity to establish yourself in a permanent, profitable business under very attractive conditions.

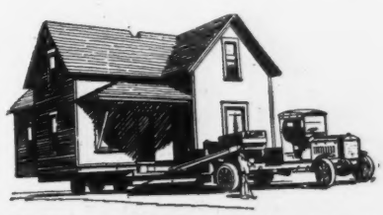
The specialized Acme is an acknowledged leader. Proved Units and Proved Acme Construction are assurance of satisfaction to owners and continued sales by dealers. There are 10 models—from speed truck to a model of 12,500 pounds capacity.



Let us send you proofs of Acme superiority and particulars of our exclusive Dealer Franchise.

Why not write us today?

Acme Motor Truck Co.
533 Mitchell St. Cadillac, Mich.



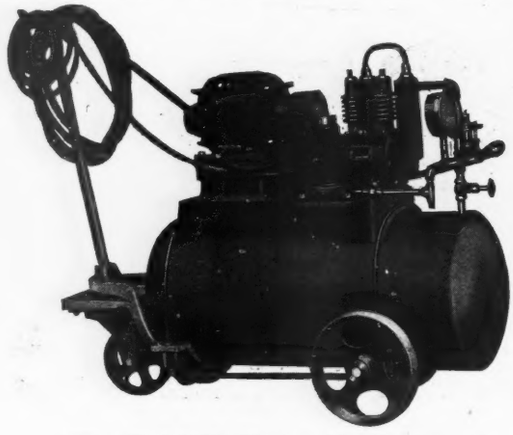
Entire Town Moved by Acme Truck
Over 100 houses, 25 to 40 tons each, were moved 12 miles from Jennings, Mich., to Cadillac, by an Acme Truck and Trailer, Acme-designed and built.

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

Model H Master Air Compressor

The Model H Master Air Compressor, manufactured by the Hartford Machine Screw Co., Hartford, Conn., with tank and automatic control switch, is made in either stationary or portable types. It is of the two-cylinder type with bore 1¾-in. diam. and 2-in. stroke, delivering at normal speed 2½ cu. ft. of air per minute. This outfit can also be used for blowing carbon, cleaning upholstery and any other purpose where air can be used to advantage.

The motor is a ½-hp. General Electric make. Prices: With regular alternating current motor, $325; regular direct current motor, $315. 25-40 and 60 cycle motors for two or three phase current are special. Prices are quoted on request. Three other types of pumps, models P, Y, and W are also produced, comprising a line to meet the various types of service. All Master Garage pumps are compactly and substantially built of high-grade materials and with the most modern features.

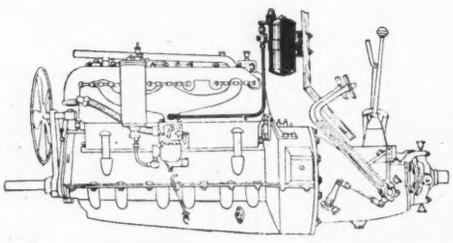


The Model H Master Air Compressor Complete

Luburetor for Engine Lubrication

Announcement was recently made by the Luburetor Co., 395-397 E. Broad St., Columbus, Ohio, of an accurate and automatic measuring device which feeds by vacuum, a special lubricant, known as Ironsides Luburetor Oil, through the intake manifold, past the valves and into the firing chambers of the cylinders. It is introduced at each stroke, steadily lubricating the cylinder walls, pistons and valves.

The oil is applied in small quantities and is said to contain less than one-half of one per cent of carbon. The introduction of this lubricant at the vital top points of the engine is claimed to prevent crystallization of carbon by keeping it in a softened condition, permitting it to be entirely blown from the engine through the exhaust. Carbon formation is also greatly decreased. Greater power, speed, pick-ups and hill climbing ability is claimed for the truck equipped with this device.



The Luburetor can be Conveniently Mounted on the Dash

The Luburetor consists of a fount or tank attached to the dash or other convenient place under the hood, having a sight feed and oil line connected to the intake manifold. In this oil line and near the fount is introduced a peculiarly designed valve, so constructed that a pre-determined quantity of oil is automatically drawn into the column of vaporized fuel in the manifold, the oil itself being vaporized and mixed with the fuel. This valve is so constructed that the quantity of oil ejected is compensated to the duty of the engine while running and ceases to feed when the engine is stopped.

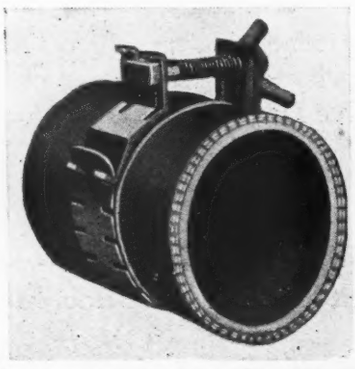
The price is $12 for light trucks and $15 for heavier capacity trucks. The price includes installation and an initial supply of Ironsides Luburetor Oil. This initial supply is stated to be sufficient for 500 miles.

Velguth Universal Hose Clamp

The Velguth Universal Hose Clamp, made by Velguth Metal Parts, Milwaukee, Wis., cannot buckle the hose, takes an equal squeeze all around, which eliminates leaking, and is easily and quickly attached.

One continuous galvanized steel band wrapping twice around the hose is the reason for the above claims of the maker. Notches on one end of the band provide ready adjustment for three different sizes of hose.

Nine standard Velguth Clamps accommodate 27 different diameters of hose from ⅝ in. to 3½ in. and all the various plies of fabric. The Velguth Hose Clamp is stamped from heavy-gage mild steel, galvanized to prevent corrosion. It is supplied with a thumb nut or stove bolt as desired.



This Clamp Distributes an Even Pressure

Velguth Timing Coupling

Such jobs as removing the gear cover and drive gear to time the magneto or machining the magneto base or shimming, when lining it up, are dispensed with by use of the Velguth Timing Coupling, which makes these jobs simply a matter of adjustment. It is manufactured by Velguth Metal Parts, Milwaukee, Wis.

This coupling is stated to time very accurately. The only tool required in connection with this coupling when timing the magneto is a small screw-driver, which springs out the locking ring. The adjustment is then easily accomplished by making two turns to the right or left with the fingers and replacing the ring.

This Coupler Simplifies Adjustments and Timing

It has a range of 132 adjustments, and liberal clearance in seating the teeth provides universal joint action, automatically compensating for poor shaft alignment. The wide bearing, case-hardened teeth also insure long service.

There are three types, designed to accommodate various conditions, shaft sizes and clearance. These couplings are not limited to use on magneto shafts. They are also used for connecting up generators, water pumps and for numerous coupling purposes. Flexibility, together with substantial makeup and ease of fitting, make them almost universally adaptable wherever a shaft coupling is used.

MacManus Adds New Accounts

MacManus, Incorporated, Detroit advertising agency, announces that the following nine companies have recently been added to its list of clients:

General Gas Light Co., Kalamazoo, Mich., manufacturers of the Humphrey Radiantfire devices; United States Radiator Corp., Detroit, radiator makers; Wayne Tank & Pump Co., Fort Wayne, Ind., manufacturers of gasoline and oil storage tanks and pumps and water softening devices; Detroit Savings Bank, Detroit; Kelvinator Corp. Detroit, manufacturers of electrical refrigerating equipment; Hydraulic Brake Co., Detroit, manufacturers of Lockheed Hydraulic Brakes; Honeywell Specialties Co., Wabash, Ind., makers of thermostatic control devices; Jeffery-Dewitt Insulator Co., Kenova, W. Va., makers of electrical insulators, and E. S. Evans & Co., Inc., Detroit, automobile loading experts.

Let Us Send You Our Unusual Sales Plan

Signal sales plan is unusual in one instance because it requires less selling ability to get the first or introductory order, and makes repeat orders easy to obtain.

Salesmanship is simply the art of convincing a person that he wants what you have to sell. If the article you have to offer is the cheapest and most inferior product on the market you can sell it just the same, but you will find great effort is necessary to close the deal.

You can never establish a repeat business with inferior merchandise and it is the repeat order or satisfied customer that makes a continuous profit and builds up a business on a firm and lasting foundation.

We need a few dealers who can sell our product and who desire to continue selling transportation to satisfied users. Signal motor vehicles satisfy and repeat orders are the conclusion of the original transaction. Our product and co-operation makes the first sale less difficult. We will be glad to talk the matter over at any time. Write or wire us for an appointment.

SIGNAL TRUCK CORPORATION
DETROIT, MICHIGAN

SIGNAL

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

Are You Selling the School Bus Idea to Its Fullest Extent

(*Continued from page 24*)

The Swenson Auto Company heartily advocates solicitation in this field and has done considerable from an analytical standpoint to better qualify itself to develop the school bus idea. The following dissertation contains a lot of interesting information.

Colorado, with its 104,000 square miles and population of nearly 1,000,000 today boasts of having some of the most modern and thoroughly equipped rural schools in the United States. The motor truck together with the educational activities of truck dealers has made this possible.

The Swenson's method for securing this business is through wide circulation and follow up to the various members of the school boards. This is no small matter. In Colorado there are sixty-three counties, divided into something over sixteen hundred school districts with a board of at least three members to each district or a total board of five thousand of the more successful farmers. They all receive literature. Also, wherever and whenever a school board meeting is held for the purpose of considering consolidation a Swenson representative is generally present. This representative is a salesman, a public speaker and knows his subject thoroughly.

In addition to the salesman's talk to the school board and its audience this company works together with local bonding companies, also represented with an able speaker at the meetings. This company finances the district and with their cooperation the deal is generally put over.

The rapid consolidation of schools and the adaption of motor buses for the transportation of the children is opening big possibilities for truck business. There are now more than fifteen thousand of these schools in operation and over twelve thousand of these are using motor buses. In Colorado there over 165 consolidated schools using buses exclusively.

Important Report Angles

A report is generally required on each contemplated consolidation in order to ascertain facts for intelligent presentation to the board. A few of these are as follows:

The number of children to be transported.

The maximum area of the consolidation.

The number of trucks required, their capacity and what sizes of bodies will be needed.

The road conditions.

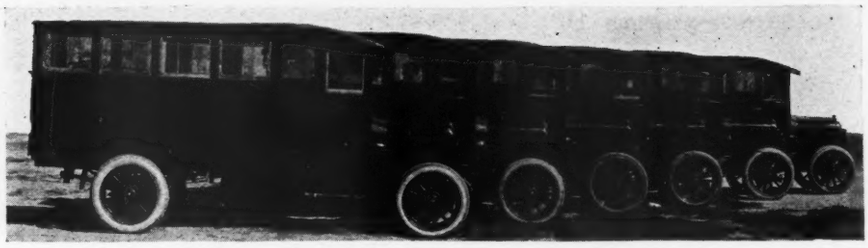
The number of voters and how many are required to carry the proposition.

How is the district controlled?

What is the assessed value of taxable property?

The number of one and two-room schools to be discontinued.

In Colorado it has been the custom to select persons for driving the buses who have other occupations but are free at the time the children must be transported. Drivers such as teacher, high school student, janitor or retired farmer have been found very satisfactory and can be secured for reasonable wages.



Vehicles Such as These Are Responsible for the Firm and Steady Growth of Our Consolidated Schools

The advantages of motor bus transportation are quite generally known, also the advantages of school consolidation, some of them are mentioned below:

The motor bus affords a maximum comfort. The children are not subjected to the elements to any appreciable extent, thereby conserving health. Children like to ride to school in the auto bus as a result they are more contented and in a better mental frame of mind upon arrival at the school. Besides they are not physically fatigued by long walks, or from long horse and buggy rides. Daily attendance is more regular and a nine months' school term can be easily maintained. Farmers are not required to furnish the horses that they can ill afford at certain seasons.

One of the biggest factors is the great saving of time. The children do not need to leave home so early in the morning nor do they return so late at night. The routes are so arranged that they are not compelled to ride longer than one hour. Formerly children left home as early as 6 A. M.

The advantages of a consolidated school are convincingly apparent. Such schools are large enough to warrant the services of a competent superintendent and teachers of higher caliber are attracted. Pupils can be grouped into better classes on the basis of advancement and time can be divided more effectively between study and recitation. The consolidated school makes for betterment such as better schoolrooms, light, heat, ventilation, sanitation, etc. in every respect.

Besides the farmers in several consolidated school districts in Colorado estimated that consolidation has increased the value of their land $25 or more per acre.

The Reasons of Unsuccess

In schools where transportation has not given satisfaction the difficulties can be often traced to the driver, the form of conveyance or, as is frequently the case, a consolidation confined to too small an area. Schools sometimes attempt to carry too big a load in a light truck or one fitted with undersized tires. They have no idea as to what mileage they are getting or what the replacement of parts, repair work, overhauling, etc. is costing them. However, they know that it is excessive and they soon learn that makeshift equipment is not desirable.

In Colorado the schools own and operate their own conveyances. The drivers can be secured more cheaply under school ownership. Private ownership is discouraged. Experience taught that it is very difficult to find the right kind of a driver willing to invest his money in a bus. Moreover, an incompetent driver under private ownership cannot be dismissed.

Under school ownership, the buses are kept in better repair and can be frequently and uniformly inspected. Where it is found necessary to lengthen or shorten the route or make other changes it can be done without haranging with the private owner, who is not always willing to meet these requirements. The school district should own the transportation facilities because it insured the best and most dependable service.

The Swenson Auto Company in its efforts in this field accomplished two things. First it gained for itself the lucrative school bus business and secondly, which is by no means of least importances, it established a reputation for the Transport truck in this state. The school bus helps to sell the truck to the farmer for his individual use. For instance, when a certain truck has been selected in open competition as choice of the majority of the members of the local board, it is fair to assume that that member who has committed himself to the extent of endorsing the truck for public use will find himself discredited if he purchases another make for his own use.

School centralization or consolidation is a big problem and is of vital interest to the truck manufacturer, dealer or distributor. Considerable data on this subject may be obtained from bulletins, pamphlets and reports for the United States Bureau of Education at Washington, from the various state departments of education and agricultural colleges.

Remy Adopted as Equipment on International Trucks

The Internationl Harvester Co., has adopted Remy equipment for their entire line of trucks. For the last several months the Remy Electric Co. has furnished the bus electrical equipment to the International Harvester Co.

The International Truck line comprises several models from small speed trucks to five-ton vehicles. On the speed trucks, the complete Remy starting, lighting and ignition system will be used, while on the heavier models the Remy generator will be used with the starting motor optional.

Just Figure This Garford Proposition for Yourself

An ever-expanding demand for motorized transportation for humans and freight—a basically good truck—developed and proven out by over fifteen years of service and experiments—to meet that growing demand.

An Engineering staff capable of foreseeing the ever-changing transportation needs of the country—and empowered to engineer the truck to meet those changing needs.

A definite, fair sales-policy, sufficiently flexible to meet varying conditions and produce dealer profits.

A human, fair-minded executive staff that really co-operates. Any way you figure it—a pleasant, profitable, permanent, growing business can be built on the GARFORD proposition. There is some attractive territory open, too. If you'd like more information on the "GARFORD Proposition" write for it.

The Garford Motor Truck Company, Lima, Ohio

Manufacturers of Motor Trucks and Motor Coaches

GARFORD

DEPENDABLE TRANSPORTATION

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

More Than 350 of Them

Motor trucks are put into use for *one* purpose only—to deliver service promptly, dependably, economically. Unless that service is safeguarded by *another service,* equally trustworthy and convenient, the investment of the truck user is less secure.

The Westinghouse answer to this vital consideration is a chain of Service Stations strategically located for the quick, expert attention truck owners have the right to expect.

For years Westinghouse has been manufacturing starting, lighting and ignition equipment of genuine merit. As an engineering organization, it has been ideally situated to design and build apparatus of the most exacting types.

This combination of *quality product* and nation-wide *service* explains the preference for Westinghouse equipment year after year, by nearly seventy-five truck and passenger car manufacturers.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
Automotive Equipment Department - Sales and Service Headquarters: 82 Worthington Street, Springfield, Mass.

Westinghouse

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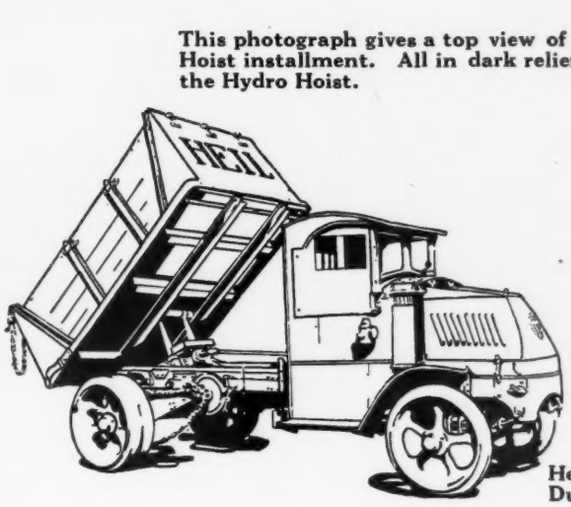
Heil Hydro Hoists

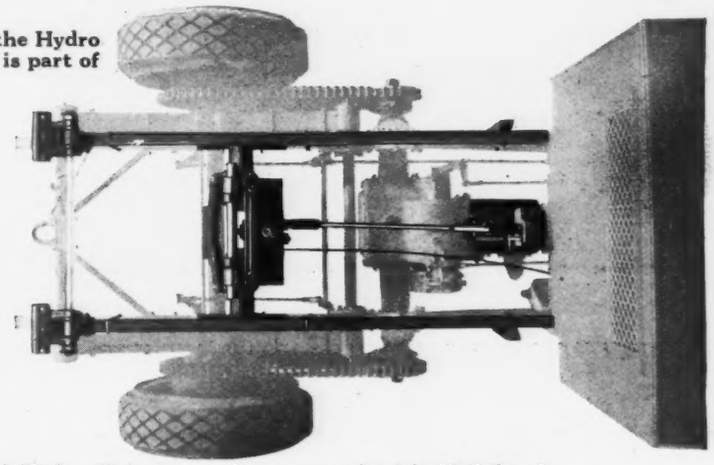
Simple—Self-Contained—Compact!

It's easy to make repairs on the transmission, rear axle, brake rods, etc., when your truck is equipped with a Heil Hydro Hoist. See for yourself! The Hydro Hoist covers up none of the chassis parts. Repairs to trucks are easy to make.

Compare the Hydro with other underbody hoists, either mechanical or hydraulic. No need to remove the hoist to overhaul your truck—save 6 to 10 hours' labor. Accessibility of all chassis parts is one of the strongest reasons for Hydro popularity.

This photograph gives a top view of the Hydro Hoist installment. All in dark relief is part of the Hydro Hoist.





Heil Hydro Hoists may be mounted with Heil Steel Dump Bodies on any make or model truck.

There is no piping to leak and cause trouble; all cables, pulleys, sheaves, rollers, arms and the like have been eliminated. The Hydro Hoist is light in weight. Suspension of the hoist just in front of rear axle does not interfere with the flexibility of the chassis frame. The Hydro Hoist has never broken a truck chassis frame.

The simplicity of the Hydro Hoist is an outstanding feature. The gear pump, capable of developing 1000 lbs. pressure per square inch, is integral with the cylinders. This tremendous power is applied directly to the load which is raised by a head of oil ranging from 38 to 80 square inches, depending on size of hoist. Note that the push of the Hydro is vertical instead of horizontal.

Catalog 120 Contains a Complete Description of How the Hydro Hoist Works

THE HEIL CO.

1143 Montana Avenue, Milwaukee, Wisconsin

DISTRIBUTORS

The Heil Co., Chicago, Ill.
The Heil Northwestern Sales Co., St. Paul, Minn.
The Heil Co., Philadelphia, Pa.
The McKenna Co., Cleveland, Ohio
The Mayer Body Corp., Pittsburgh, Pa.
General Auto Truck Co., Washington, D. C.

Quality TANKS BODIES & HOISTS "Made by Heil"

DISTRIBUTORS

Standard Parts Corp., Richmond, Va.
Motive Parts Corp., New York City
Modern Vehicle Co., San Francisco, Cal.
H. P. Wilson Co., Denver, Colo.
Bacon-Matheson Forge Co., Seattle, Wash.
Steffen-Van Steenwyck Co., Sioux City, Iowa

Manufacturers of Steel Dump Bodies, Hydro Hoists, Compartment Truck Tanks, Storage Tanks, and Underground Station Storage Tanks

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Eaton units make a

EATON
AXLES

PERFECTION
SPRINGS

The EATON AXLE & SPRING

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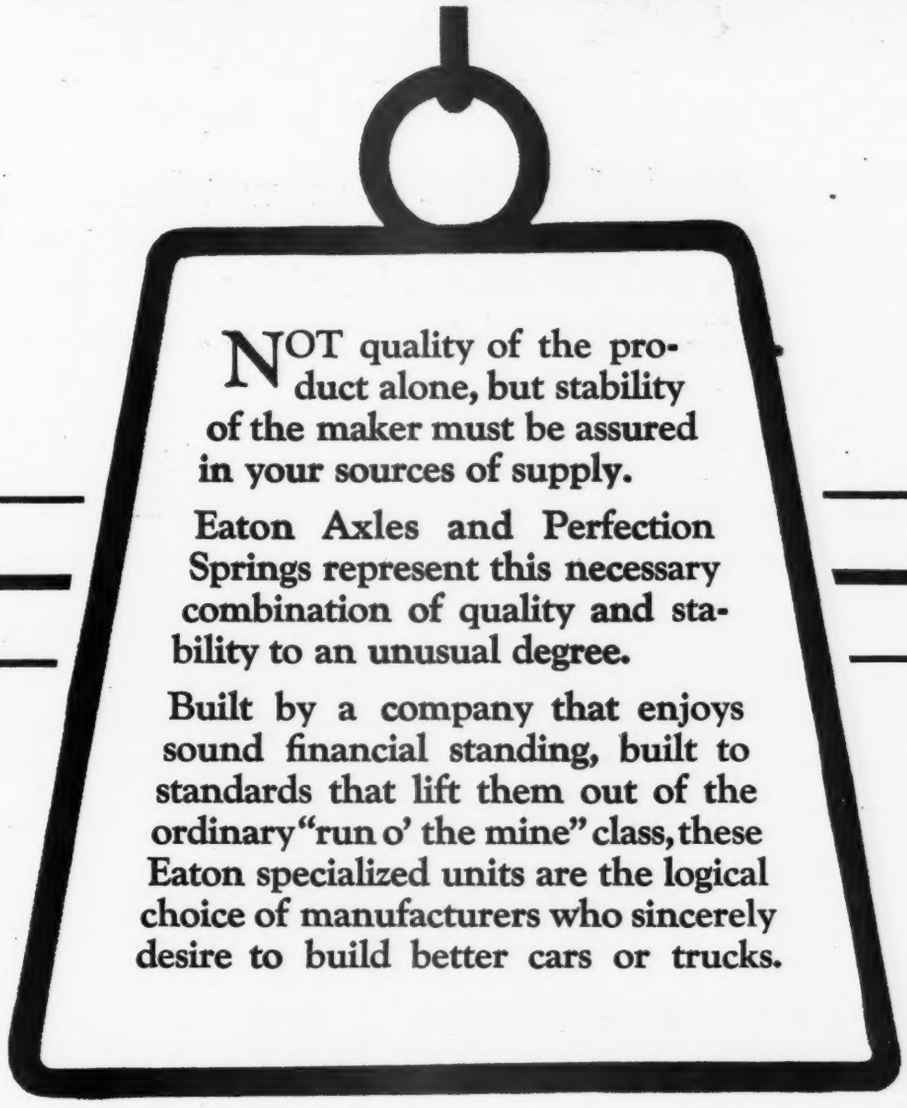
better car or truck



NOT quality of the product alone, but stability of the maker must be assured in your sources of supply.

Eaton Axles and Perfection Springs represent this necessary combination of quality and stability to an unusual degree.

Built by a company that enjoys sound financial standing, built to standards that lift them out of the ordinary "run o' the mine" class, these Eaton specialized units are the logical choice of manufacturers who sincerely desire to build better cars or trucks.

COMPANY ~ ~ ~ Cleveland

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Walker Electrics operate at lowest cost on city routes. Carroll Ice Cream deliveries prove it every day in Chicago.

TRUCK dealers—are you watching the signs—how electric trucks are replacing gas trucks on city routes in cities of 50,000 population and upward where electric trucks are represented?

Do you realize that it usually costs 50% to 100% more to operate gas trucks than electric trucks on city routes?

Walker Electric Truck Dealers can earn more net profit, are more satisfied and have brighter prospects of future business. Why? Because about 80% of Walker orders are ***repeat orders.*** Briefly that tells the whole story.

There are still a few desirable territories open to high-grade, responsible dealers. We will be pleased to submit additional facts regarding Walker Dealerships upon receipt of your inquiry.

WALKER VEHICLE COMPANY, Chicago

LEADING MANUFACTURER OF ELECTRIC STREET TRUCKS

New York Boston Philadelphia Buffalo
Newark Atlanta New Orleans

Load Capacities: ½—1—2—3½—5 tons

WALKER ELECTRIC TRUCKS

LOWEST TRUCKING COST ON CITY ROUTES

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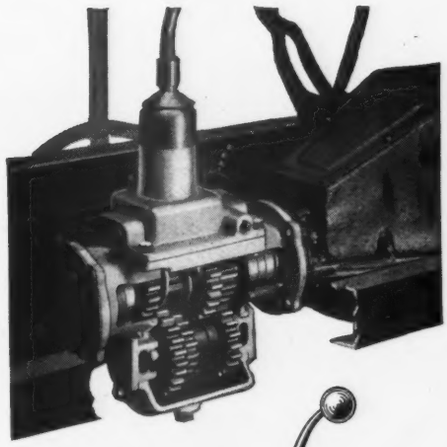
NOW—Ford economy, Ford sturdiness, Ford light weight in a 2-ton truck. HOW?

The Ford truck with a Warford Auxiliary Transmission does the work of costliest 2-ton trucks, as thousands of Warford users know. Warford—a standard selective, full Timken-equipped transmission—gears the Ford UNDER Ford low and OVER Ford high. Irresistible with any load on any hill, and smooth high speed with peak economy on the straightaway. Economy when empty.

Warford multiplies Ford value and adds only a fraction to Ford first cost. Simplest installation.

Write for sure, sane, dealer proposition.
Puts Ford dealers into the big 2-ton market.

The Warford Corporation, 44 Whitehall St., New York



Warford

AUXILIARY TRANSMISSION

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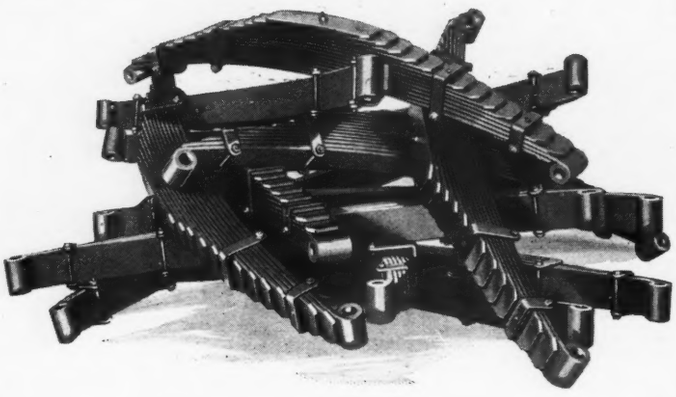

THE SPRING IS THE THING

Mather Springs
Scientifically
Heat Treated

The
Mather Spring Co.
Toledo~Ohio.

MATHER
SPRINGS

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Schacht Ten Speed Dump Truck

Supreme

in the Dump Truck Field

Dealers: Here is the SCHACHT TEN SPEED truck that has scored such a sensational success in the dump truck field.

The outstanding model of an outstanding line, the SCHACHT TEN SPEED dump truck has no counterpart in the motor truck industry. For heavy-duty hauling, particularly under difficult operating conditions, it stands alone—supreme—the most powerful and efficient hauling unit in America.

Progressive dealers can sell the SCHACHT TEN SPEED truck *in volume* wherever there is a demand for truck transportation—and with less sales resistance than any truck that is sold on a basis of merit and performance.

With a complete line ranging from 1 to 5 tons, SCHACHT dealers are making money and building a permanent business. You too can enjoy the prosperity of a successful line if you have the qualifications a live dealer must possess—*and if you act quick.*

Let us tell you in detail all the exclusive features which make this the most highly regarded line of trucks in the industry today!

1 - 1½ - 2 - 2½ - 3 - 4 and 5 Ton Capacities

The G.A.Schacht Motor Truck Co., 8th and Evans Sts., Cincinnati, O.

Schacht Ten Speed Trucks

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

You can't push a nail in with a hammer

It needs a Sharp blow

Nor can all parts of a bearing be completely lubricated and effectively cleaned by lubricant forced into the bearing under gradually applied pressure.

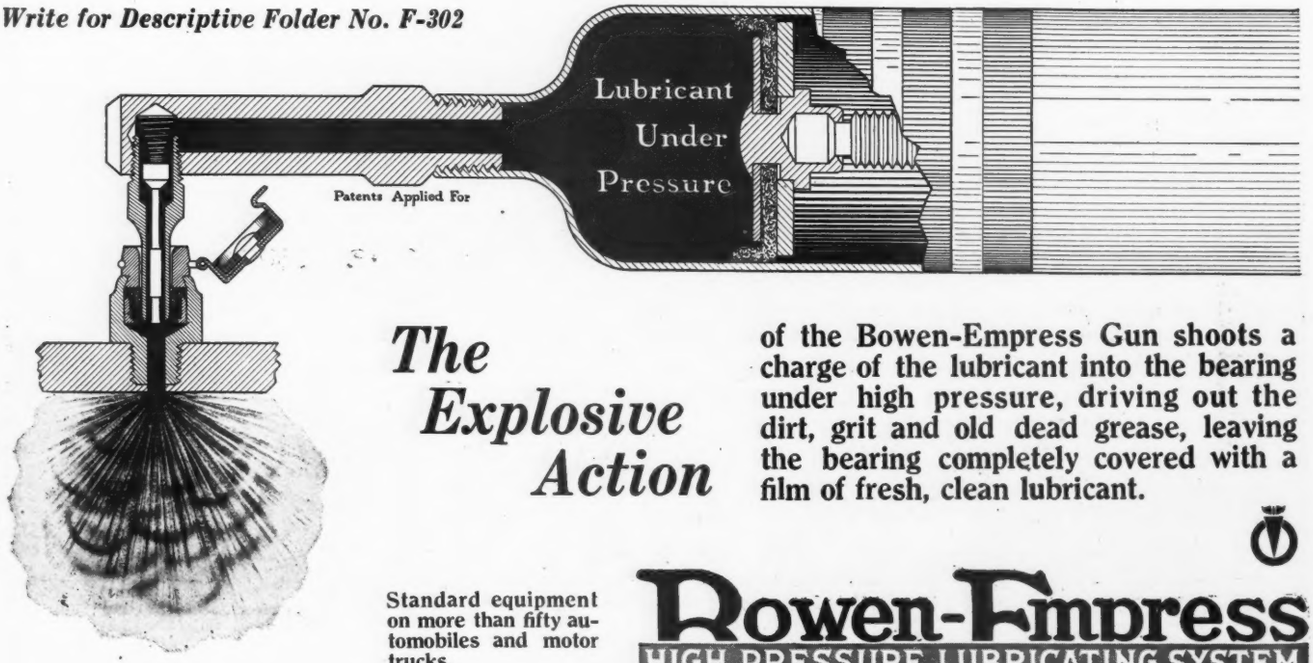
With the usual pressure systems, after making connection between the gun and bearing, the pressure is gradually applied by turning the handle, forcing the plunger against the lubricant, resulting in a correspondingly gradual spread of the lubricant over the bearing surface. In the case of a loose, worn bearing the lubricant will follow the worn surface, flowing out at the ends of the bearing. If the bearing is dirty or choked with old, dead grease, instead of forcing this out the lubricant is much more likely to flow around such obstruction and follow an old channel, always seeking outlet along the line of least resistance.

With the Bowen-Empress High Pressure Lubricating System, the pressure is developed in the gun before the gun is applied to the bearing, then as the nozzle is thrust into the connection on the bearing the pressure is automatically released and the resulting explosive action instantaneously floods the bearing with a charge of the lubricant shot in under high pressure. This explosive action allows of no opportunity for the lubricant to flow around an obstruction or to seek outlet through an old channel; the old grease, grit, etc., is entirely forced out, leaving the bearing completely covered with a film of fresh lubricant.

Bowen Products Corporation

Auburn Division, Auburn, N. Y.

Write for Descriptive Folder No. F-302



The Explosive Action

of the Bowen-Empress Gun shoots a charge of the lubricant into the bearing under high pressure, driving out the dirt, grit and old dead grease, leaving the bearing completely covered with a film of fresh, clean lubricant.

Standard equipment on more than fifty automobiles and motor trucks.

Bowen-Empress
HIGH PRESSURE LUBRICATING SYSTEM
FOR ALL MOTOR CARS AND TRUCKS

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

No Real Observant Business Man

Questions or doubts the stability and assured, tremendous future growth of the truck industry.

Shall the thousands of trucks vital to answer the modern and future transportation problem be sold through dealers or through factory branches?

Dealers have been slow to decide and prone to delay decision, fearing to pioneer truck accounts, until manufacturers have established their own selling organizations, proving trucks could be sold, and made the good account unobtainable when dealers finally wished it.

Truck manufacturers of today know that large results cannot be expected or accomplished immediately. They realize the necessity of unlimited help and co-operation toward developing their dealers and branches alike to a permanent and profitable business.

Many successful truck manufacturers have been forced to establish branches before they succeeded. Denby *is* successful and is determined to be more so. Denby prefers having dealers participate in its growth and success, and before authorizing branches in open territory offers its franchise to dealers.

DENBY MOTOR TRUCK CORPORATION, DETROIT

DENBY
MOTOR TRUCKS

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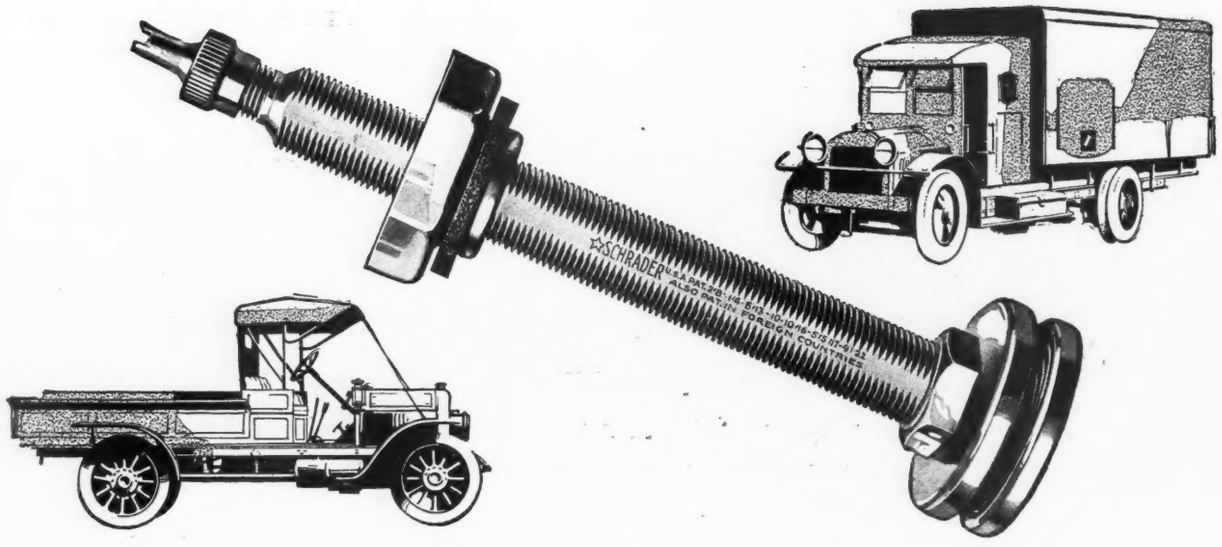

On the first pneumatic truck tire —and the latest

THE modern motor truck owes to pneumatic tires a debt that can never be paid. For its rapid development began only after the first successful use of pneumatic tires. And the life of pneumatic truck tires depends in great measure upon the efficiency of their tire valves.

Because of air-tight valves the motor truck's range of travel is indefinitely increased. Although the truck owner gives deserving praise to the tire-maker, he does not always realize the important part the tire valves play in the trips his trucks make through city and country.

Schrader Universal Tire Valves have been effectively retaining air in pneumatic tires since the birth of the automotive industry. They were on the first pneumatic truck tires made in the United States. Today they are part of the equipment of pneumatic truck tires in every country where trucks are used.

Air-tight and automatic

The present Schrader Truck Tire Valves are the product of engineers and workmen who are experts in producing air-tight valves. These tire valves operate *automatically* without special manipulation of valve parts. Truck owners today may rely on Schrader Tire Valves to be air-tight and give long and efficient service. By holding in air effectively, they help you to get the full mileage out of your truck tires.

This constant, unfailing performance in holding air in pneumatic tires and helping to prolong the life of tires has made Schrader Tire Valves known throughout the motor world.

Use the complete Schrader Valve

Have your inspectors see that the Schrader Tire Valve, complete with a Schrader Valve Cap, Rim Nut, and Dust Cap, is on every truck tire. Impress on them the importance of always replacing a valve inside with another Schrader High Pressure Valve Inside, made specially for holding heavy pressures.

No matter where you buy Schrader Truck Tire Valve parts—and you can get them wherever motor accessories are sold—you will find they are interchangeable. A Schrader Valve Inside purchased in India and a Valve Cap bought in London will fit the Valve on the tube bought in New York City.

Get these parts from your supply house and see that extras are in every truck tool kit.

A. SCHRADER'S SON, Inc., Brooklyn, N. Y.

Chicago Toronto London

Manufacturers of Schrader Valve Insides, Valve Caps and Tire Pressure Gauges

SCHRADER

TIRE VALVES

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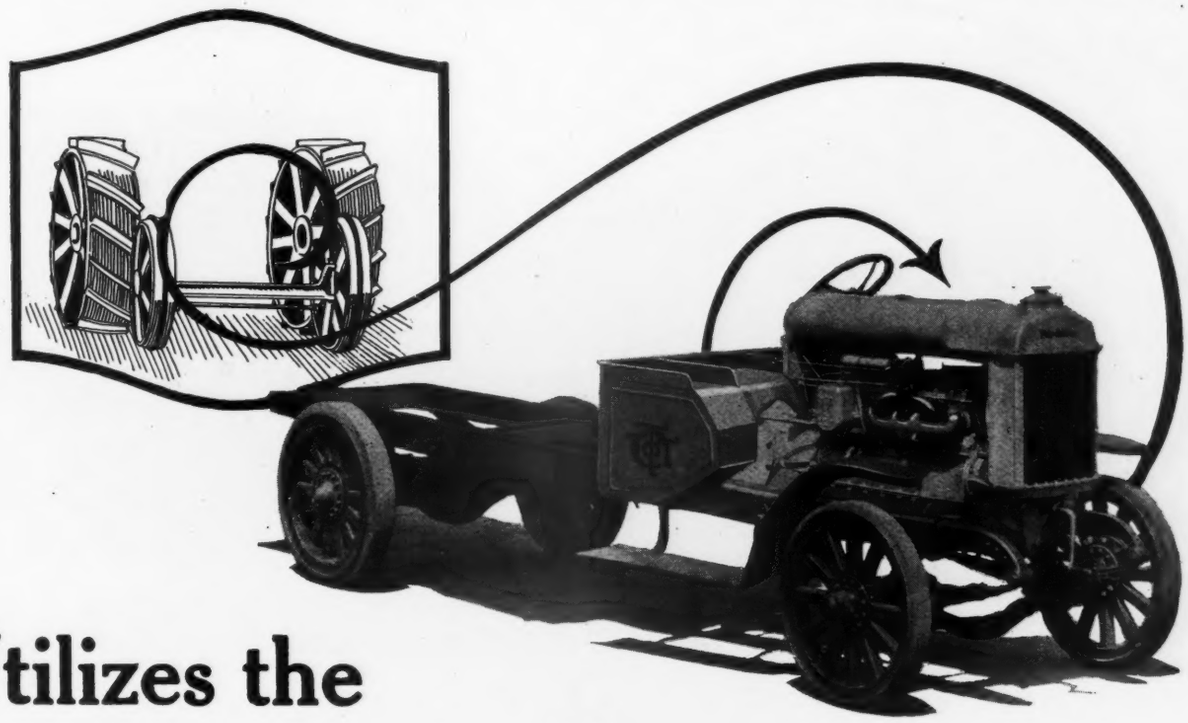

Utilizes the Fordson Power Plant

By using a chain and pulley or any other simple hoisting device, your customer can easily transfer his Fordson power plant to the Toppins Truck Unit. *He will then have a high-grade 2½ ton worm or chain drive truck.*

The whole operation can be finished as quickly as it takes to get a team of horses ready and harnessed.

Your customer will thus have a Fordson for field operations—and a powerful, heavy-duty truck to haul his crops to market, at an 18-miles-per-hour speed.

Both together will cost him approximately half of what he would have to pay for any good make of truck.

As the Toppin Truck Unit operates on kerosene, your customer's fuel bill will be half of what gasoline truck owners pay.

His upkeep cost for the Fordson plant power will of course be less than for that of the average heavy-duty truck. He will get *prompt* Fordson service—anywhere, anytime.

UTILIZES THE FORDSON POWER PLANT

Toppins Truck Unit

Dealers—Distributors

The above are just a few of the many exclusive advantages which enable your customers to have both a Fordson and a high-class 2½ ton truck for half the price of any good truck of similar capacity. *A real proposition for real merchandisers. Write for full details.*

TOPPINS TRACTOR TRUCK COMPANY
MILWAUKEE, WIS.

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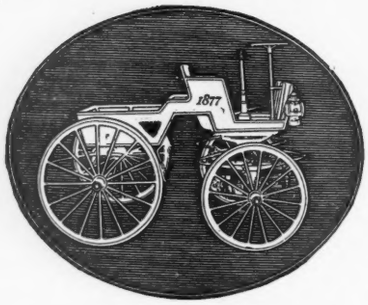

The First Gasoline Road Wagon—a Selden

IN OPEN TERRITORY THERE IS AN OPPORTUNITY FOR A SELDEN DEALER. WRITE US

The Selden Truck has been, and will continue to be, among the very best built in the field of specialized motor trucks.

In many years of business we have established a line of successful dealers—a long list of satisfied owners (owners of single Selden Trucks as well as fleets) who enthusiastically endorse Selden Policy, Selden Spirit, and Selden Service.

SELDEN TRUCK CORPORATION

ROCHESTER, N. Y., U. S. A.

IN-BUILT QUALITY · Selden · MOTOR TRUCKS

The Mark of Flexibility

Selden Motor Trucks

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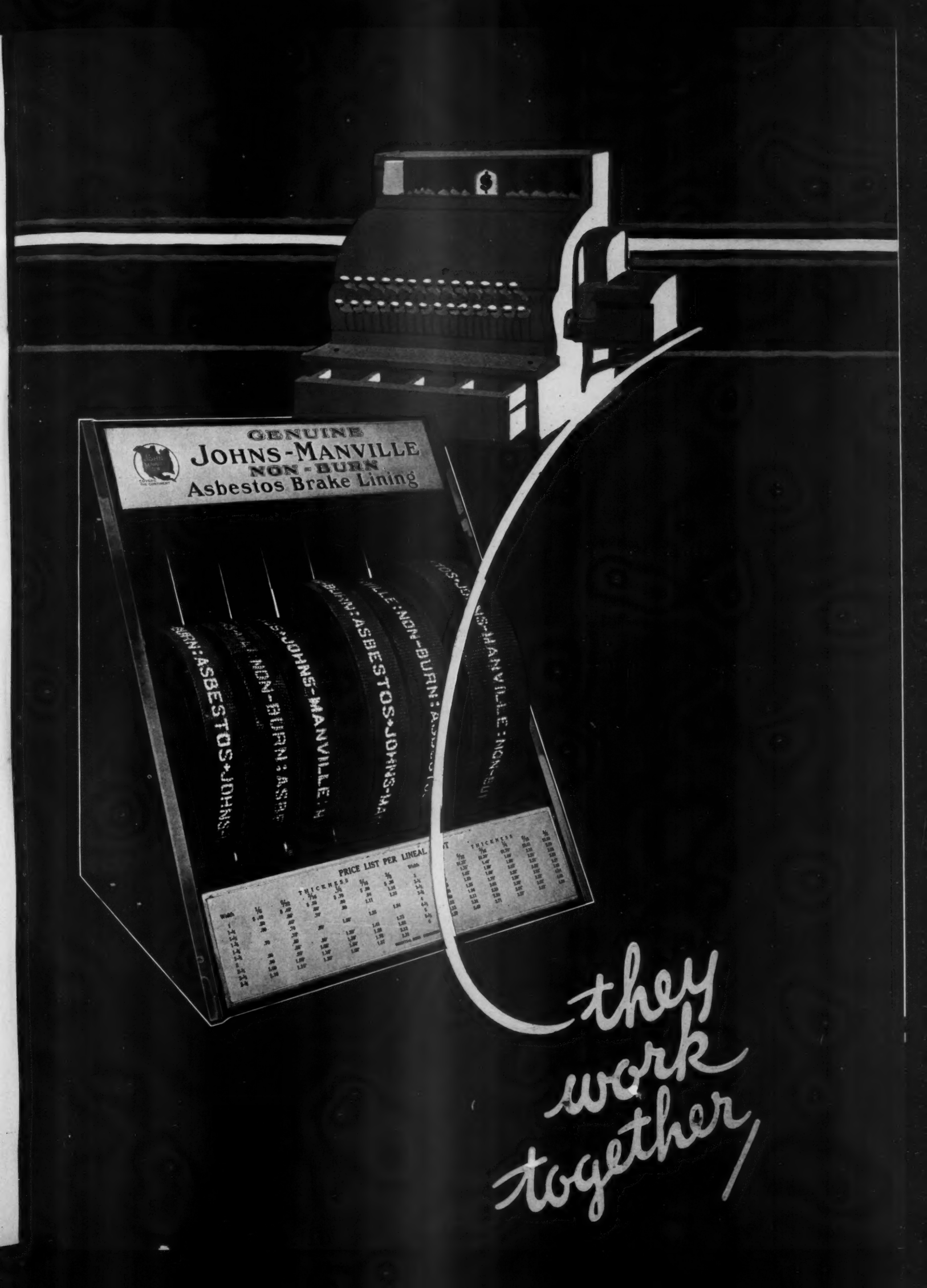

GENUINE
JOHNS-MANVILLE
NON-BURN
Asbestos Brake Lining
PRICE LIST PER LINEAL
they work together

Window of the Storz-Western Auto Supply Co.
Omaha, Nebraska.

Window of the Nebraska Buick Auto Co.
Lincoln, Nebraska.

So many ways to sell it!

A RACK full of Johns-Manville Brake Lining can be turned over so rapidly that you'll play upon your cash register like a typewriter.

Get our handsome display rack, pictured on the preceding page) free with 300 ft. order of Non-Burn)—in your window or on your counter—it's a profit-maker.

Ask 'em to re-line at your curb pump when they stop with noisy and inefficient brakes.

Have your repairmen examine the brakes of storage cars and advise the owners to re-line when necessary.

Tie up with the Johns-Manville national magazine and newspaper advertising by staging a blowtorch demonstration at your place. Turn the blowtorch flame on Johns-Manville Non-Burn. Show 'em it will not burn!

And remember the big selling point: Brakes are safer and last longer with Johns-Manville Non-Burn.

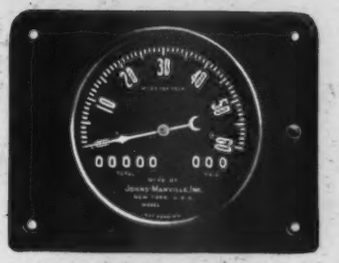
JOHNS-MANVILLE Inc., Madison Ave. at 41st St., New York City
Branches in 59 Large Cities
For Canada: CANADIAN JOHNS-MANVILLE CO., Ltd., Toronto

JOHNS-MANVILLE
Automotive Equipment

Soft ,edal?
Get 'em on all your customers' cars by watching and caring for their brakes. It pays in good will and in cash profits.

A few turns of the wrench!
—may be all they need to get their brakes working properly. Or they may need relining. Get this business!

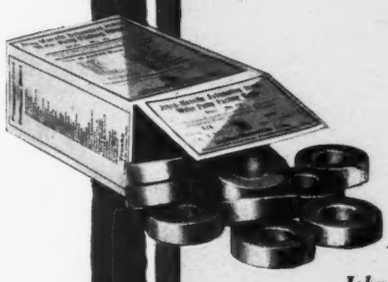
When their cars run wild!
The trouble generally lies in the brake drum. Ask 'em to reline.



Johns-Manville Speedometer for Ford cars

Johns-Manville Speedometer is designed and carefully made to meet long, hard service. It can be depended upon year after year. Easy to attach to the Ford instrument board. Catalogue number 3023.

You will also be interested in our Speedometer for Star cars. Ask our distributor to show you one.

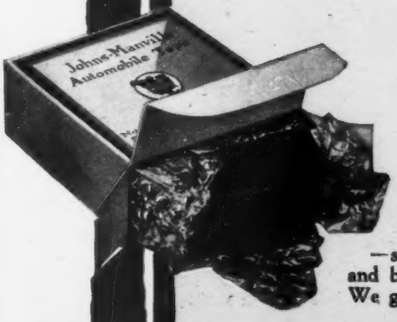


Johns-Manville Automotive Jewett Ring Packing

—these little ready-made rings are great time-savers in packing water pump shafts and other places where a ring of small cross-section is desired.

Johns-Manville Automotive Seigelite Sheet Packing

Resists oil, gas and water. Nothing better for gasketing, water manifolds, differential housings, carburetors, etc.



Johns-Manville Automobile Tape

—strong and will not fray, and best of all, it stays sticky. We guarantee it for one year.

Johns-Manville Hub Odometer

—easy to sell to the owner of commercial vehicles. Accurate and sturdy, it should never get out of order. You can attach it in a few moments.

Johns-Manville Automotive Service Sheet Packing

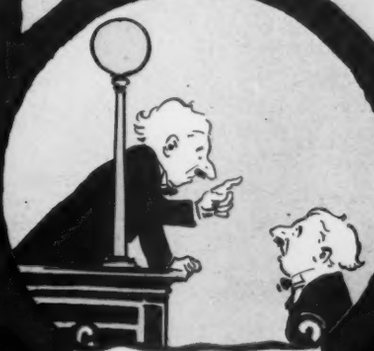
Resists heat — a tough, thin packing—thin because thin packing makes the tightest joints, exposing the smallest area. That makes it most economical, too.

Johns-Manville Asbestos Clutch Facings

Easy to attach. They are delivered with accurately ground faces, countersunk, and drilled for mounting. They do not have to be worn in. Get them as you need them from the distributor near you. He also has Johns-Manville woven facings for single disc clutches.

A new Cop

Many cities now require brake inspection by their police departments — a good selling argument on a relining job.



"Be your own judge"

A good thing to tell your customers. Tell 'em to fine themselves now the price of a few feet of lining and keep out of court.

CHOOSE YOUR DISTRIBUTOR

Alabama
Moore-Handley Hardware Co., Birmingham
Johnson Tire & Auto Co., Montgomery

Arkansas
Crow-Burlingame Co., Little Rock

California
Chansior & Lyon Co., Fresno
The Banta Company, Los Angeles
Chansior & Lyon Co., Los Angeles
Featherstone, E. A., Los Angeles
McCoy Motor Supply Co., Los Angeles
Chansior & Lyon Co., Oakland
Weinstock-Nichols Co., Oakland
Kimball-Upson Co., Sacramento
P. W. Gavin Company, San Diego
Chansior & Lyon Co., San Francisco
McCoy Motor Supply Co., San Francisco
Weinstock-Nichols Co., San Francisco
California Auto Supply Co., Stockton

Colorado
Auto Equipment Co., Denver
Foster Auto Supply Co., Denver
Motor Accessories & Tire Co., Pueblo

Connecticut
Hessel & Hoppen Co., New Haven
Motor Tire Service Co., Putnam

District of Columbia
National Electrical Supply Co.
Rubel, Chas., & Co.

Florida
Baughman Company, G. Norman, Jacksonville
Baughman Company, G. Norman, Miami
Baughman Company, G. Norman, Tampa

Georgia
Alexander-Seewald Co., Atlanta
Osburn-Abston & Co., Atlanta
Cody Co., W. E., Columbus

Illinois
Automobile Supply Co., Chicago
Chicago Automobile Supply House, Chicago
Motor Car Supply Co., Chicago
Sheridan Auto Supply Co., Chicago
Tenk Hardware Co., Quincy
Washington Auto Supply Co., Washington

Indiana
Orr Iron Co., Evansville
Lomont & Co., Ft. Wayne
The I. J. Cooper Rubber Co., Indianapolis
Goodlin Auto Equip. Co., South Bend

Iowa
Cedar Rapids Auto Supply Co., Cedar Rapids
Sieg Co., Davenport
Herring Motor Co., Des Moines
Repass Auto Co., Waterloo

Kansas
The Frank Colladay Hardware Co., Hutchinson
Watson-Weldon Co., Salina
Southwick Auto Supply Co., Topeka
The Massey Hardware Company, Wichita

Kentucky
Peaslee-Gaulbert Co., Louisville

Louisiana
Shuler Auto Supply Co., New Orleans
Interstate Electric Co., Shreveport

Maine
The Farrar-Brown Company, Inc., Portland

Maryland
Auto Supply Co., Baltimore
Coggins & Owens, Baltimore

Massachusetts
Linscott Supply Co., Boston
Motor Tire Service Co., Fitchburg
Duncan & Goodell Co., Worcester
Motor Tire Service Co., Worcester

Michigan
E. A. Bowman, Inc., Detroit
Tisch Auto Supply Co., Grand Rapids

Minnesota
Kelley-Duluth Co., Duluth
Minneapolis Iron Store Co., Minneapolis
Reinhard Bros. Co., Minneapolis
Williams Hardware Co., Minneapolis
Nicols, Dean & Gregg, St. Paul

Missouri
Joplin Supply Co., Joplin
The Faeth Company, Kansas City
Ayers Farmer Auto Supply Co., St. Joseph
Beck & Corbett Iron Co., St. Louis
Fred Campbell Auto Supply Co., St. Louis
Geller, Ward & Hasner, St. Louis
Hermann-Sanford Company, Springfield

Montana
Northwestern Auto Supply Co., Billings

Nebraska
Nebraska Buick Auto Co., Lincoln
Storz-Western Auto Supply Co., Omaha

Nevada
Nevada Auto Supply Co., Reno

New Hampshire
Thompson & Hoague Company, Concord

New Jersey
Economy Auto Supply Co., Newark
Pruden Hardware Co., Newark

New York
Albany Hardware & Iron Co., Albany
Martin-Evans Co., Brooklyn
H. D. Taylor Co., Buffalo
Barker, Rose & Clinton Co., Elmira
Weaver-Ebling Automobile Co., New York City
Pruden Hardware Co., W. E., New York City
Whittemore-Sim Co., Inc., New York City
The Olmsted Co., Inc., Syracuse

North Carolina
Carolinas Auto Supply House, Charlotte
Ko-Mo Supply Co., Charlotte
Automobile Supply Co., Wilmington

North Dakota
Grant-Dadey Company, Fargo

Ohio
The Penn. Rubber & Supply Co., Akron
C. & D. Auto Supply Co., Cincinnati
The I. J. Cooper Rubber Co., Cincinnati
The Penn. Rubber & Supply Co., Cincinnati
The Penn. Rubber & Supply Co., Cleveland
The I. J. Cooper Rubber Co., Columbus
The Penn. Rubber & Supply Co., Columbus
The I. J. Cooper Rubber Co., Dayton
The Penn. Rubber & Supply Co., Toledo
The Penn. Rubber & Supply Co., Youngstown

Oklahoma
Severin Tire & Supply Co., Oklahoma City
Severin & Company, Tulsa
Machinery & Supply Co., Tulsa

Oregon
Wiggins Company, Inc., Portland
Chansior & Lyon Co., Portland

Pennsylvania
Motor Accessories Co., Allentown
Central Supply Co., Altoona
The Penn. Rubber & Supply Co., Erie
Front Market Motor Supply Co., Harrisburg
General Auto Supply Co., Harrisburg
Johnstown Auto Co., Johnstown
General Auto Supply Co., Lancaster
The Penn. Rubber & Supply Co., Oil City
Berrodin Auto Supply Co., Philadelphia
Gaul, Derr & Shearer Co., Philadelphia
Roberts Electric Supply Co., H. C., Philadelphia
Dyke Motor Supply Co., Pittsburgh
Jackson Motor Supply Co., Pittsburgh
General Auto Supply Co., York

Rhode Island
Belcher & Loomis Hardware Co., Providence

South Carolina
Franke Co., Inc., C. D., Charleston
D. W. Alderman, Jr., Inc., Florence
D. W. Alderman, Jr., Inc., Greenville

South Dakota
L. & L. Motor Supply Co., Sioux Falls

Tennessee
Southern Auto Supply Co., Chattanooga
The I. J. Cooper Rubber Co., Knoxville
Osburn-Abston & Co., Memphis
Auto Supply Co., Nashville
The I. J. Cooper Rubber Co., Nashville

Texas
Ferris-Dunlap Co., Dallas
Tri-State Motor Company, Inc., El Paso
The Equipment Co. of Texas, Fort Worth
Meyer Co., Jos. F., Houston
The Southern Equipment Co., San Antonio
McCauley-Ward Motor Supply Co., Waco

Utah
Inter-Mountain Electric Co., Salt Lake City
Motor Mercantile Co., Salt Lake City

Vermont
Vermont Hardware Co., Burlington

Virginia
The Owens-Merritt Co., Danville
Piedmont Hardware Co., Danville
Crump Co., Benj. T., Richmond
Talman Auto Supply Co., Richmond
Meadows-Price Co., Roanoke

Washington
Chansior & Lyon Co., Seattle
Reynolds & Reynolds, Seattle
Chansior & Lyon Co., Spokane
Holley-Mason Hardware Co., Spokane
Chansior & Lyon Co., Tacoma
Reynolds & Reynolds, Tacoma

West Virginia
Williams Hardware Co., Clarksburg

Wisconsin
Clemons Auto Supply Co., Eau Claire
Andrae & Sons Co., Julius, Milwaukee
Shadbolt & Boyd Iron Co., Milwaukee
Tisch Auto Supply Co., Milwaukee
Western Motor Supply Co., Milwaukee

Wyoming
Auto Equipment Co., Casper

CANADA

Alberta
The Motor Car Supply Co., of Canada, Ltd., Calgary
The Motor Car Supply Co., of Canada, Ltd., Edmonton

British Columbia
Marshall-Wells, B. C., Ltd., Vancouver

Manitoba
Wood, Vallance, Ltd., Winnipeg

New Brunswick
The Lounsbury Company, Ltd., Newcastle

Nova Scotia
J. J. Snook Ltd., Truro

Ontario
The Nicholson Sales & Service Corp., Ltd., Hamilton
A. Chown & Co., Ltd., Kingston
Just Motors Limited, Ottawa
Johnson-Dean, Ltd., Toronto
Samuel Trees & Co., Ltd., Toronto
Bowman-Anthony Co., Windsor

Saskatchewan
Wood, Vallance, Limited, Regina

FOREIGN

Australia
Duncan & Co., Melbourne
Cornell, Ltd., Adelaide
Chas. Atkins & Co., Ltd., Perth
Canada Cycle & Motor Agency, Brisbane
Hislop, Lloyd & Co., Sydney

Great Britain and Ireland
A. C. R. Greene & Co., Ltd., London

Japan and Korea
Takemura Company, Yokohama

Mexico
Mexico Auto Supply Co., Mexico City

New South Wales
Hislop, Lloyd & Co., Sydney

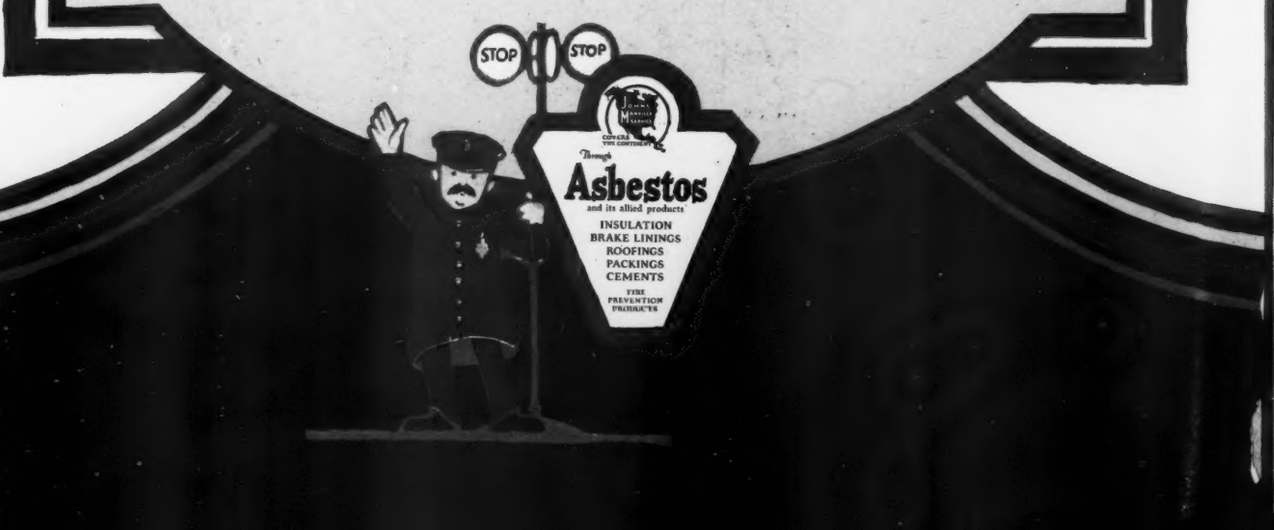
New Zealand
Jas. J. Niven & Co., Ltd., Wellington

Norway, Sweden and Denmark
F. Bulow & Co., Copenhagen

Switzerland
A. Kleiner, Zurich

Union of South Africa
Bartle & Co., Ltd., Johannesburg

Uruguay
Clericetti & Barrella, Montevideo

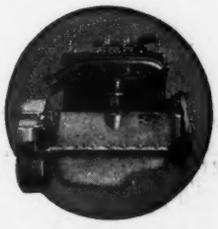


Buda-powered "Ultimate" Motor Coach, built by the Vreeland Motor Company, Inc., Newark, New Jersey. One of a fleet operated by Antonio Muscola between Bloomfield and Newark.

170,000 miles without touching a bearing

"In its three years and four months of operation," writes the Vreeland Motor Company, "there has never been a main or a connecting rod bearing scraped; none of the bearings has ever been touched. The crankcase was down once, after three years of operation, when the pistons were taken out and the block re-bored, but up to that time absolutely nothing was done to the bearings, and the only work done on the engine was to have the block re-bored, new pistons fitted, and the block re-ground."

It is such records as this that enable the Buda engine to maintain its outstanding position in the motor world.



BUILT FOR A PURPOSE

THE BUDA COMPANY, HARVEY CHICAGO SUBURB ILL.
ESTABLISHED 1881

Buy only standard Buda Parts for your Buda engine. New Parts Catalog No. 402 is now ready

BUDA
The
ENGINE

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

When gear-box lubrication is figured on a cost-per-mile or cost-per-ton basis, ***then*** you will find

DIXON'S 677

most economical.

It cuts down power loss in the gear boxes and makes gears operate easily, quietly and deliver full engine power at lowest cost.

Write for Booklet No. 112 G

JOSEPH DIXON CRUCIBLE CO.

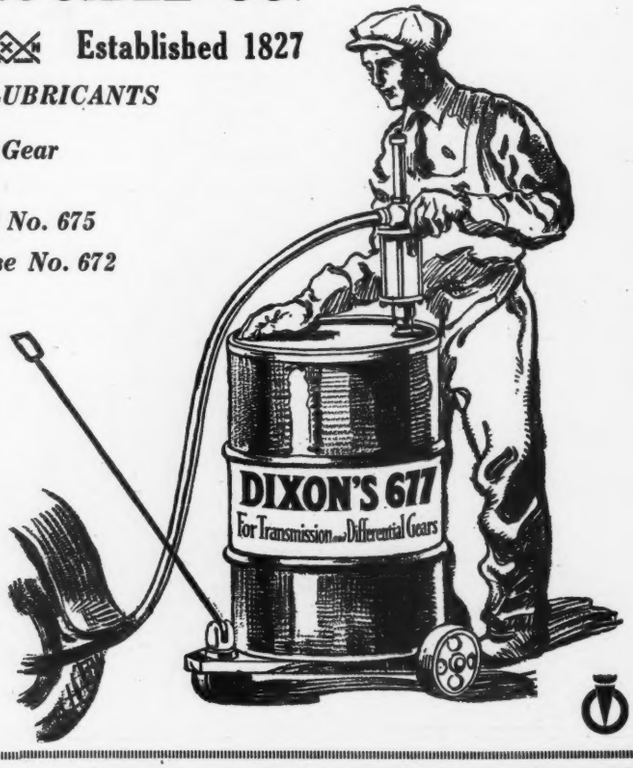
Jersey City, N. J., U. S. A. Established 1827

MAKERS OF QUALITY LUBRICANTS

For Spur and Bevel Gears Use Dixon's Gear Lubricant No. 677

For Worm Drives Use Dixon's Gear Oil No. 675

For Universal Joints Use Dixon's Grease No. 672



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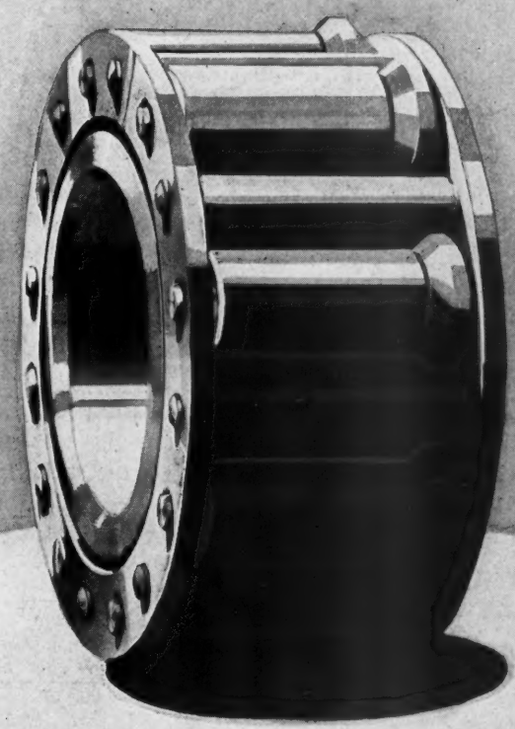
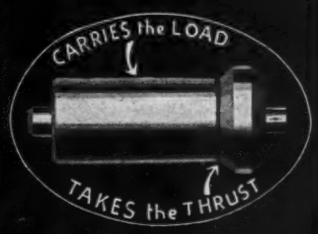
BOWER
ROLLER BEARING CO.
Detroit · Michigan

BOWER SAVES POWER

When an engineer specifies Bower Roller Bearings for a car or truck, he knows that *there* is one part he can conscientiously forget about. -- They seem to serve everlastingly with no adjusting or no additional service. And to manufacturers, as well as car owners, this is of inestimable value.

Bower Roller Bearing Company
Detroit, Michigan





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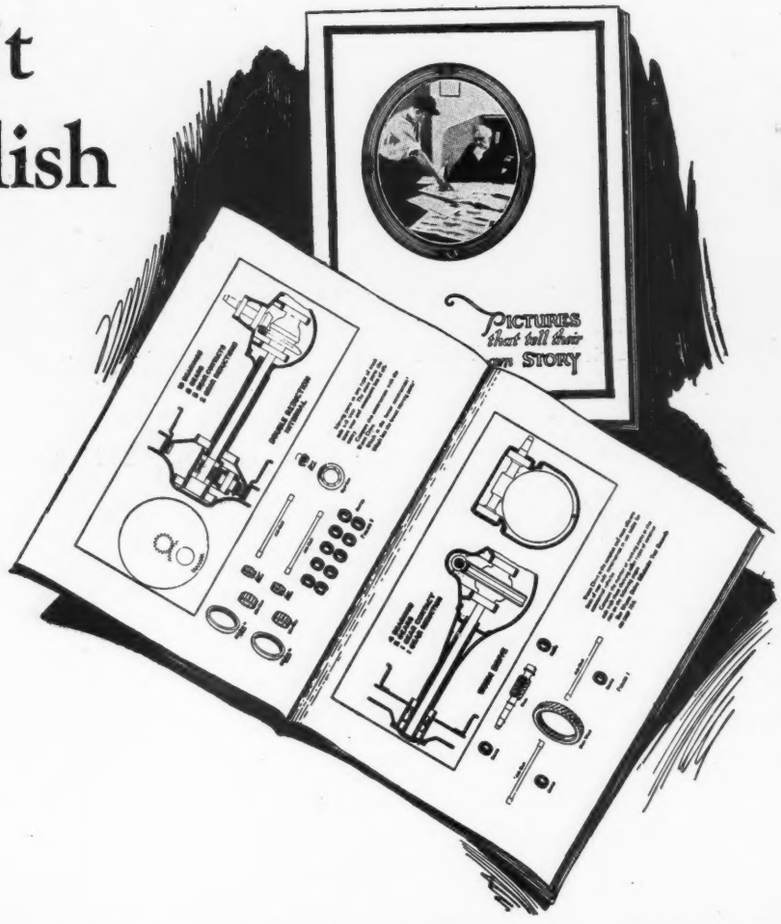
Facts Your Trade Paper Can't Publish



These facts—truck axle facts—are in a little book just issued by us. Its title is significant—"Pictures That Tell Their Own Story." There's no long-winded or *ex parte biased* argument presented.

Just a few facts and pictures; you do your own thinking and draw your own conclusions. The subject could not be treated in this direct, simple, comparative fashion by a trade publication because, quite properly, it cannot discuss one man's products as compared with another's—or even appear to compare them.

But *we* can—and have. All complicated, technical arguments in favor of this or that kind of axle or type of axle design are left out, because the average man knows that theoretical reasoning can prove anything to the satisfaction of the prover.

We are very anxious to get *your personal reaction* from this new way of presenting the subject of truck axles.

Send for the book—it's free—and then write us what *you* think the facts indicate.

THE TIMKEN-DETROIT AXLE COMPANY, DETROIT, MICH.
Sole Representatives in the British Isles:
AUTOMOTIVE PRODUCTS COMPANY, 3 Berners Street, London, W. 1.

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Book of Samples FREE

Test It Yourself

We do not ask you to take anyone's sayso about the use of Genuine Keratol for upholstering.

Its beauty of finish; its pliability; its rugged resistance to wear and hard usage; its stain-proof, grime-proof surface; the wide variety of colors and grains—see them all for yourself.

Send the coupon in the corner for a generous book of samples.

Rub them between your fingers. Pull and twist them. Pound or try to scuff them. Smear them with dirt—or mud—or grease.

You are the judge. You have the final say.

Clip and sign the coupon NOW. Find out how Genuine Keratol adds value—appearance and salability to your product—at smaller costs that mean more profits. Don't delay these profits.

Clip and Sign the Coupon Now

This Coupon May Save You a Month's Profit This Year

THE KERATOL COMPANY
Dept. 107 NEWARK, N. J.

Without obligation, please send me your **FREE** sample book, so I can see and test Genuine Keratol for myself.

Name .....

Address .....

.....

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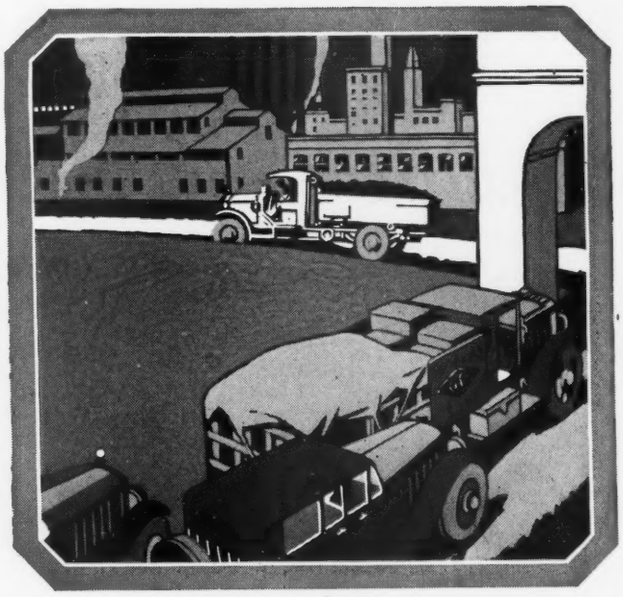
Time Tested

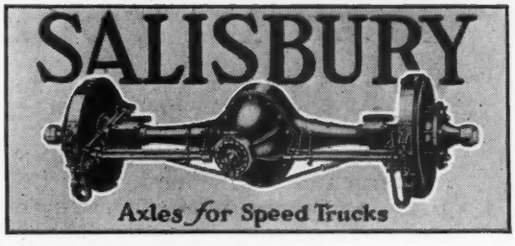
AS the years go by, the proof of the quality of Spicer, Sheldon, Parish and Salisbury products grows stronger and stronger;

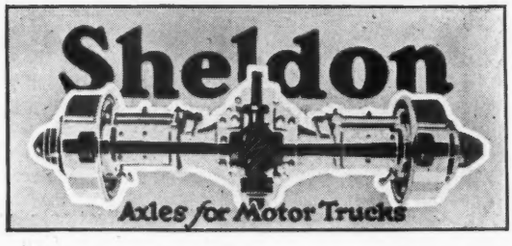
Their reputation spreads farther and farther;

The number of vehicles embodying one or more of them grows larger and larger.

Why not utilize the sales-making power of their prestige by incorporating them in the cars or trucks *you* build?







Sheldon Axle and Spring Co. - Wilkes-Barre, Pa.
Parish Mfg. Corp. - Reading, Pa., and Detroit, Mich.
Salisbury Axle Co. - - - Jamestown, N. Y.
Spicer Mfg. Corporation - South Plainfield, N. J.

C. A. DANA, *President*

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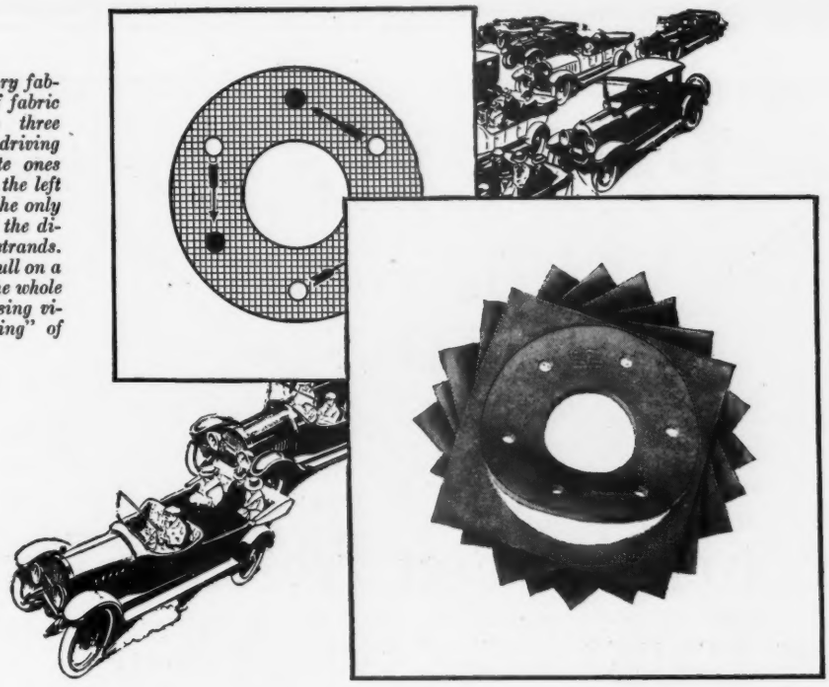
At right is an ordinary fabric disc, its layers of fabric laid parallel. The three black holes are the driving bolts—the three white ones the driven. Note that the left hand driving bolt is the only one that can pull in the direction of the cotton strands. The other two must pull on a bias. This stretches the whole disc out of true, causing vibration and "whipping" of the shaft.



Now examine the Thermoid-Hardy patented Fanwise Construction. The disc is built up with the strands of each fabric layer running in a different direction. Each sector is equally strong, equally elastic. Every stress is balanced—the torsional, the centrifugal, and the lateral. This eliminates vibration and holds the shaft in true on every revolution.

The only disc universal that gives the wear without the stretch

Exclusive Fanwise Construction combines the necessary strength, wear and freedom from "whipping"

The Thermoid-Hardy patent is the base for the disc universal. Six years ago the first fabric disc — made by Thermoid-Hardy—was put on the market. Today, over 65 leading manufacturers of cars and trucks have adopted it as standard equipment.

The thing that made this fabric disc practical is the patented Fanwise Construction.

Contrast it with an ordinary fabric disc. The Thermoid-Hardy owes its amazing strength to the fact that the strands in each layer run in *different* directions.

This gives an even stress at every point of strain—an equal "pull" between every pair of bolt holes. You find this construction *only* in the Thermoid-Hardy Universal.

Flexible, yet tremendously strong

A torsional twist of 21,000 pounds could not injure the Thermoid-Hardy disc. And the Thermoid-Hardy has given 60,000 miles on the heaviest trucks, over the roughest roads—without lubrication or adjustment.

No vibration—no jolting

Metal universals soon wear down and transmit every jolt to delicate gears and bearings. What's more, they need constant attention. The flexible Thermoid-Hardy disc delivers a smooth, even flow of power instead of jolts and lost motion.

Thermoid-Hardy discs are now packaged for distribution through jobbers and dealers for replacement sales. Full information, prices, and discounts sent on request.

A book you should have

We have prepared a book, "Universal Joints—Their Use and Misuse," that treats the subject from every angle—the mechanical principles, construction, lubrication, manufacture, strength, tests, and records of performance. Send for your copy today.

THERMOID RUBBER COMPANY
Sole American Manufacturers
Factory and Main Offices: Trenton, N. J.
New York Chicago Los Angeles Detroit Atlanta
Seattle Kansas City Boston Cleveland
San Francisco London Paris Turin

LIST OF USERS
Allis Chalmers Mfg. Co.
The Autocar Co.
Available Truck Co.
Barley Motor Car Co. (Roamer)
Chandler Motor Car Co.
Crow-Elkhart Motor Corp.
Jas. Cunningham Son & Co.
Dart Truck & Tractor Corp.
The Dauch Mfg. Co.
Diamond T Motor Car Co.
Doane Motor Truck Co.
Fageol Motors Co.
H. H. Franklin Mfg. Co.
Garford Motor Truck Co.
Gramm-Bernstein Motor Truck Co.
Hawkeye Truck Co.
Hendrickson Motor Truck Co.
Highway Motors Co.
Holt Mfg. Co.
Indiana Truck Co.
International Harvester Co. of A. Inc.
International Motor Co.
Jackson Motors Corp.
Kelsey Motor Co.
Kentucky Wagon Mfg. Co., Inc.
King Zeitler Co.
Lakewood Eng. Co.
Lexington Motor Co.
Locomobile Co.
Maxwell Motors Corp.
Menominee Motor Truck Co.
Mercer Motors Co.
Moreland Motor Truck Co.
Nelson & LeMoon

LIST OF USERS
E. A. Nelson Automobile Co.
Nelson Motor Truck Co.
D. A. Newcomer Co.
O'Connell Motor Truck Co.
Oliver Tractor Co.
Oneida Motor Truck Co.
Packard Motor Car Co.
Parker Motor Truck Co.
Patriot Motors Co.
Reliance Motor Truck Co.
Reo Motor Car Co.
Reynolds Motor Truck Co.
Root & Van Dervoort Eng. Co.
Sanford Motor Truck Co.
Southwark Fdy. & Mach. Co.
Stoughton Wagon Co.
Studebaker Corp.
Stutes Mar Tractor Co.
Templar Motors Co.
Tioga Steel & Iron Co.
Towmotor Co.
Traffic Motor Truck Corp.
Transport Truck Co.
Twin City Four Wheel Drive Co., Inc.
United Motors Co.
Walter Motor Truck Co.
Ward La France Truck Corp., Inc.
Geo. D. Whitcomb Co.
Wichita Motors Co.
H. E. Wilcox Motor Co.
Willys-Overland, Inc.
Zeitler & Lamson Truck & Tractor Co.

THERMOID-HARDY UNIVERSAL JOINT

Makers of "Thermoid Hydraulic Compressed Brake Lining"
"Thermoid Crolide Compound Tires"

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FEDERAL
RUT GUARD
TRUCK
TIRES

The Strongest, Best Protected Tire for Trucks Using Rough Roads

EVERY truck, from the nature of its duty, must use a poor road some time every working day. Soft dirt, sand, mud, rut-worn macadam, broken concrete—every locality has roads like this, and only a specially built tire can withstand them.

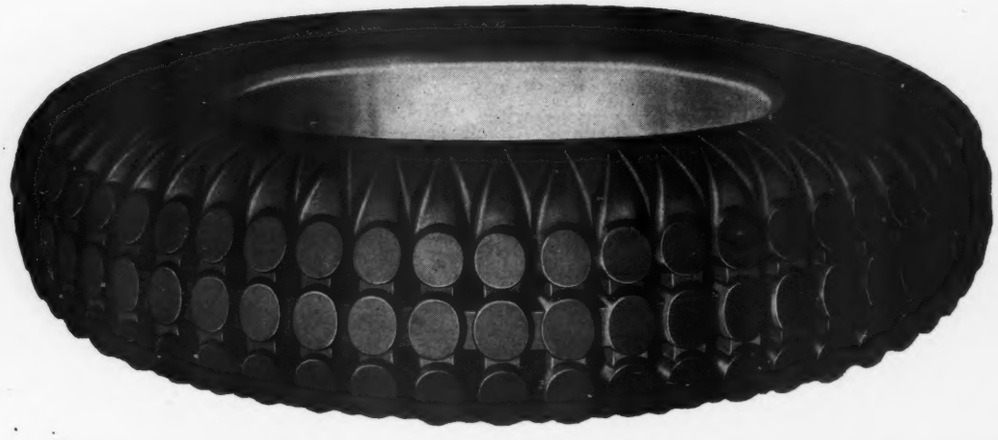
The Federal Rut-Guard Cord was specifically designed for just such hard work, and the tremendous success it has met in inter-city haulage, on road-builders' equipment, bus transportation, ice-cream, furniture, dry goods and other speedy, heavy-duty service is proof of the correctness of design and the honesty of the product.

Right near you there is an authorized distributor of Federal Tires—a high-class, well-established concern, whose experience is at your service in helping reduce the operating cost of your trucks. Use this service—it will save you money continuously.

The Fisk Tire Company, Inc.

Federal Division

Chicopee Falls, Mass.



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A Fleet of 125

Impressed by its appearance and reputation, a well known concern installed a Graham Brothers Truck several years ago as an experiment.

Today they own 125—and the fleet is steadily growing.

Measuring costs in terms of miles, they found it was the most economical transportation they could buy.

And the most dependable!

1 Ton Chassis, $1265; 1½ Ton, $1325; f. o. b. Detroit or Evansville, Ind.

GRAHAM BROTHERS
Detroit — Evansville

GRAHAM BROTHERS TRUCKS

SOLD BY DODGE BROTHERS DEALERS EVERYWHERE

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

for Durability—Use Steel

The world of truck transportation places Durability first. If it isn't durable it isn't anything.

You naturally associate steel with Durability. Trains of steel thunder across the country, day in and day out, on steel wheels and steel rails and over steel bridges.

Steel is durable, and it naturally follows that the better the grade of steel, the better will be its enduring qualities.

Dayton Steel Truck Wheels are cast in one piece of electric furnace steel. Then, too, their qualities of endurance are further increased by the unique hollow rim and spoke construction that promotes strength without sacrificing lightness, accessibility or appearance.

These superior constructional attainments keep Dayton Wheels true and round as long as the truck itself maintains a semblance of usefulness.

[*Quality, not price, has induced nearly all leading truck makers to furnish Dayton Steel Wheels as standard equipment. Specify them on your next order.*]

The Dayton Steel Foundry Co.
Dayton, Ohio

STRENGTH
LIGHT WEIGHT
DURABILITY
TIRE ECONOMY
ACCESSIBILITY
APPEARANCE

FLEET OWNERS: Write at once for information and entry blanks in our $1000.00 prize Truck Driver's Economy Contest.

Dayton
Steel Truck Wheels

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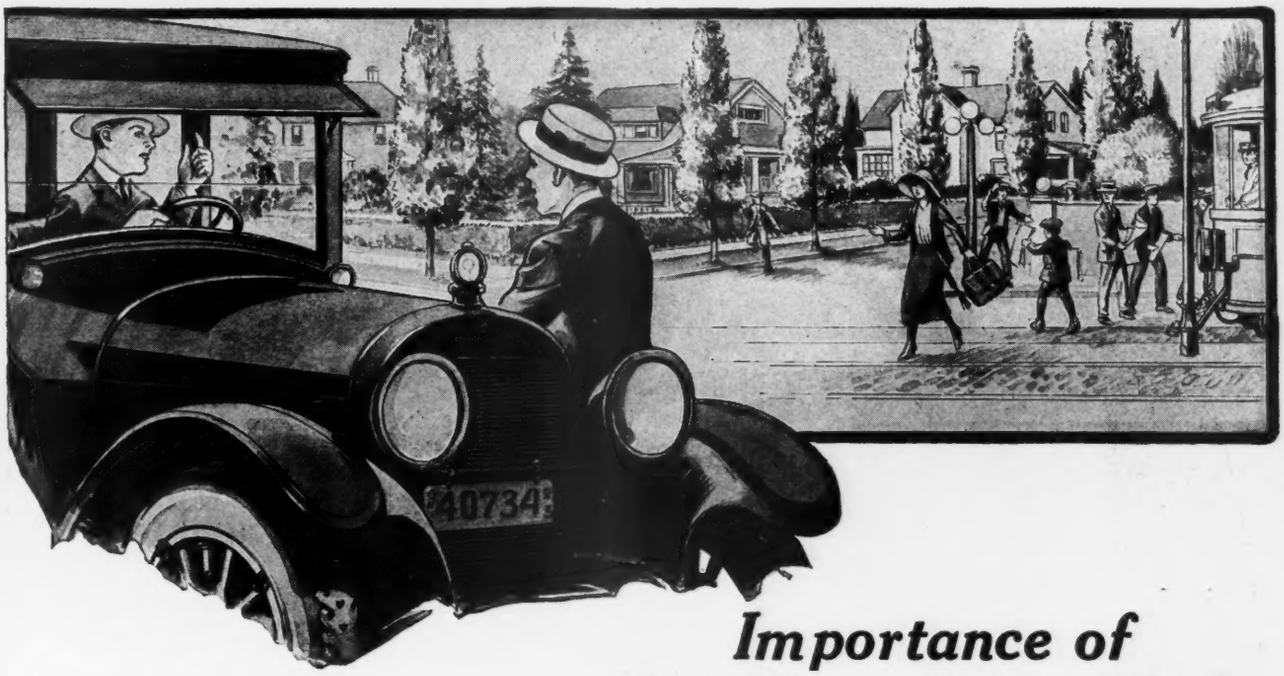

Importance of Certified Malleable In Your Daily Life

Chances are that every day you either drive a motor car, ride in street cars, or take a railway trip. In any of these activities, you constantly entrust your life to the strength of Certified Malleables that are used for so many vital parts of Automobiles, Locomotives and Railway Cars.

Every backward tilt of your office chair might bring accident or even death if you were not protected by dependable swivel mechanism made of Certified Malleables. Their protection even extends to your sleeping hours, as hundreds of tons of malleable parts are used annually by manufacturers of the country's best beds.

The liberal use of this material offers you an excellent opportunity to put your product in the "Certified Class" and thereby render your customers the same protection and service that you daily receive. Hundreds of makers of motor cars, trucks, farm implements and other classes of machinery consider the use of Certified Malleables a mark of distinction in manufacture, just as their wives value the use of Sterling silverware in the family's table service.

Shock resistance, great strength, uniform structure, rust resistance and easy machining, are dominant physical properties that commend Certified Malleables for all classes of machinery construction. They are a guarantee of definite physical properties to the maker, dealer and user.

THE AMERICAN MALLEABLE CASTINGS ASSN.
The 1900 Euclid Building Cleveland, Ohio

MAKERS OF CERTIFIED MALLEABLE CASTINGS

Certificate Holders for the Quarter Ending December 31st, 1922

Albany Malleable Iron Co. ..... Voorheesville, N. Y.
Albion Malleable Iron Co. ..... Albion, Mich.
American Malleable Castings Co. ..... Marion, O.
American Malleables Co. ..... Lancaster, N. Y., and Owosso, Mich.
Badger Malleable & Mfg. Co. ..... South Milwaukee, Wis.
Baltimore Malleable Iron & Steel Casting Co. ..... Baltimore, Md.
Belle City Malleable Iron Co. ..... Racine, Wis.
Chain Belt Co. ..... Milwaukee, Wis.
Chicago Malleable Castings Co. ..... West Pullman, Chicago, Ill.
Columbus Malleable Iron Co., The ..... Columbus, O.
Danville Malleable Iron Co. ..... Danville, Ill.
Dayton Malleable Iron Co. ..... Dayton, O., Ironton, O., and Canton, O.
Decatur Malleable Iron Co. ..... Decatur, Ill.
Devlin Mfg. Co., Thomas ..... Philadelphia, Pa.
Eastern Malleable Iron Co., The ..... Naugatuck Malleable Iron Works, Naugatuck, Conn.; Bridgeport Malleable Iron Works, Bridgeport, Conn.; Troy Malleable Iron Works, Troy, N. Y.; Wilmington Malleable Iron Works, Wilmington, Del.; Vulcan Iron Works, New Britain, Conn.
Erie Malleable Iron Co. ..... Erie, Pa.
Federal Malleable Co. ..... West Allis, Wis.
Flagg & Co., Stanley G. ..... Philadelphia, Pa.
Fort Pitt Malleable Iron Co. ..... Pittsburgh, Pa.
Fraser & Jones Co. ..... Syracuse, N. Y.
General Electric Co. ..... Erie, Pa.
Illinois Malleable Iron Co. ..... Chicago, Ill.
Iowa Malleable Iron Co. ..... Fairfield, Ia.
Kalamazoo Malleable Iron Co. ..... Kalamazoo, Mich.
Laconia Car Co. ..... Laconia, N. H.
Lakeside Malleable Castings Co. ..... Racine, Wis.
Link-Belt Co. ..... Indianapolis, Ind.
Marion Malleable Iron Works ..... Marion, Ind.
Moline Malleable Iron Co. ..... St. Charles, Ill.
National Malleable Castings Co., The ..... Cleveland, O., Chicago, Ill., Indianapolis, Ind., Toledo, O., E. St. Louis, Ill.
Northern Malleable Iron Co. ..... St. Paul, Minn.
Northwestern Malleable Iron Co. ..... Milwaukee, Wis.
Peoria Malleable Castings Co. ..... Peoria, Ill.
Pittsburgh Malleable Iron Co. ..... Pittsburgh, Pa.
Rhode Island Malleable Iron Works ..... Hillsgrove, R. I.
Rockford Malleable Iron Works ..... Rockford, Ill.
Ross-Meehan Foundries, The ..... Chattanooga, Tenn.
St. Louis Malleable Casting Co. ..... St. Louis, Mo.
Saginaw Malleable Iron Co. ..... Saginaw, Mich.
Standard Malleable Castings Co. ..... Terre Haute, Ind.
Stowell Co., The ..... South Milwaukee, Wis.
Symington Co., T. H., The ..... Rochester, N. Y.
Temple Malleable Iron & Steel Co. ..... Temple, Pa.
Terre Haute Malleable & Mfg. Co. ..... Terre Haute, Ind.
Trenton Malleable Iron Co., The ..... Trenton, N. J.
Union Malleable Iron Co., The ..... E. Moline, Ill.
Vermilion Malleable Iron Co. ..... Hoopeston, Ill.
Wanner Malleable Iron Co. ..... Hammond, Ind.
Warren Tool & Forge Co. ..... Warren, Ohio
Webster Mfg. Co., The ..... Chicago, Ill.
Wisconsin Malleable Iron Co. ..... Milwaukee, Wis.
York Mfg. Co. ..... York, Pa.
Zanesville Malleable Co. ..... Zanesville, O.

POSITIVE PHYSICAL PROPERTIES — AcA CERTIFIED TRADE MARK

CERTIFIED-MALLEABLE CASTINGS

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

United States Cushion Tires are Good Tires

Providing Safety to the Load and Protection to the Truck

U. S. Cushion Tire

NO truck tire of the cushion type ever before developed has offered so much economy as the U. S. Cushion Tire.

Economy in guarding against damage to the load by giving almost the cushioning of a pneumatic.

Economy in reducing repair expenses on the truck itself by absorbing the jolts that injure truck mechanism.

Economy in actual cost per mile because of the use of Sprayed Rubber —an exclusive U. S. Process—in its manufacture.

Ask the U. S. Truck Tire Dealer.

United States Cushion Tires

United States Rubber Company

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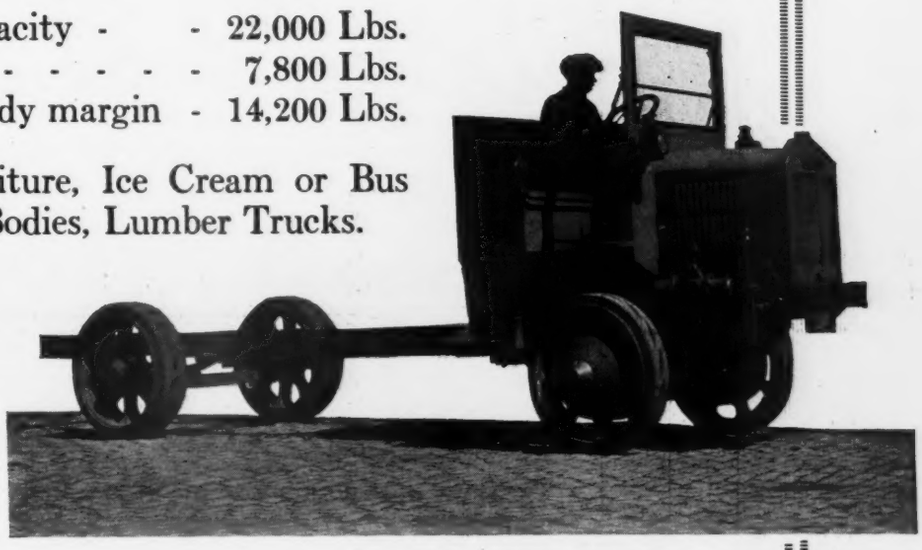
MacDonald Front Wheel Drive Truck
Model "O"

Mechanically Superior ***Economical*** ***Dependable***

Guaranteed capacity - - 22,000 Lbs.
Chassis weight - - - - - - 7,800 Lbs.
Pay-load and body margin - 14,200 Lbs.

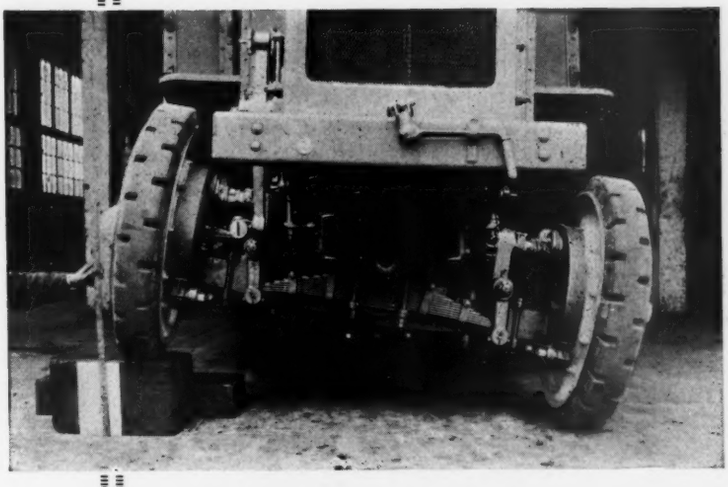
For Van, Furniture, Ice Cream or Bus Bodies, Dump Bodies, Lumber Trucks.



Chassis height above ground from 18″ to any dimension required.

We Invite Attention to the Following:

Simplicity of Rear Axle Construction.
Superior Mechanical Construction of Front Axle.
Three point support of chassis on axles resulting in elimination of all frame weaving effect.



Front Wheel Drive.

Before you buy another truck investigate the MacDonald.

Shipment from stock.

Literature on request.

MacDonald Truck Division—Union Construction Company

Main Office
351 California Street San Francisco, Cal.
Sales and Service Stations
Los Angeles, Cal. Honolulu, T. H.

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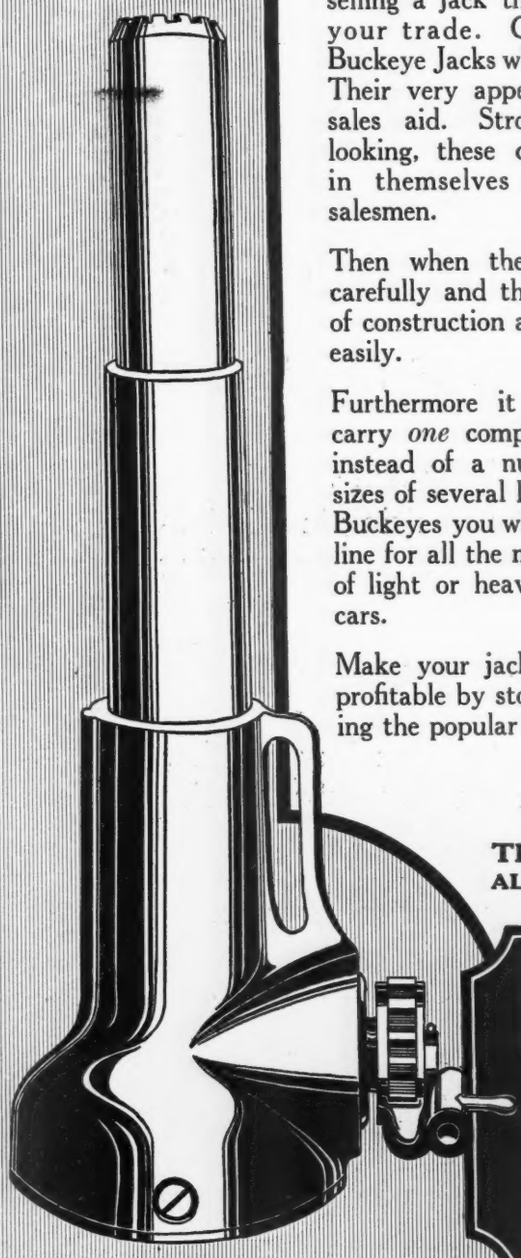
To Dealers To Manufacturers



You are naturally interested in selling a jack that will appeal to your trade. Customers want Buckeye Jacks when they see them. Their very appearance acts as a sales aid. Strong and capable looking, these quality jacks are in themselves their own best salesmen.

Then when they are examined carefully and their unique points of construction are noted they sell easily.

Furthermore it will pay you to carry *one* complete line of jacks instead of a number of assorted sizes of several lines. By stocking Buckeyes you will have a complete line for all the most popular types of light or heavy duty trucks or cars.

Make your jack sales active and profitable by stocking and displaying the popular Buckeye line.

Of course the sort of equipment that you place in the tool-box doesn't sell your motor truck—but it helps to sell it. For buyers are impressed by the little things and often judge the worth of your major units by the quality of the smaller items.

Buckeye Jacks offer much to the manufacturer who wants the best equipment on his trucks. They have a national reputation for their dependability and long life. They are satisfactorily guaranteed. They are produced in quantities that reduces the cost of a quality jack to a minimum.

The Buckeye is the most complete of any jack line made in America today. You can choose the particular jack that you believe to be the best fitted for your purpose from this extensive line.

Write for Catalog

THE BUCKEYE JACK MFG. CO.
ALLIANCE OHIO

BUCKEYE JACKS
The Most Complete Jack Line Made

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

The value of a GMC franchise to any motor truck dealer is well set forth by the fact that in the last year GMC sales have increased more than 90% over that for the previous 12 months' period.

This is due in no small measure to the new and better motor truck transportation which has been provided by the exclusive features of GMC design and construction, and by the fact that these features have resulted in a country wide disposition of the buyers of motor trucks toward GMC equipment.

There is an opportunity for a GMC dealership in every city and town in the United States where GMC trucks are not now represented.

GENERAL MOTORS TRUCK COMPANY — *Pontiac, Michigan*
Division of General Motors Corporation

General Motors Trucks

GMC

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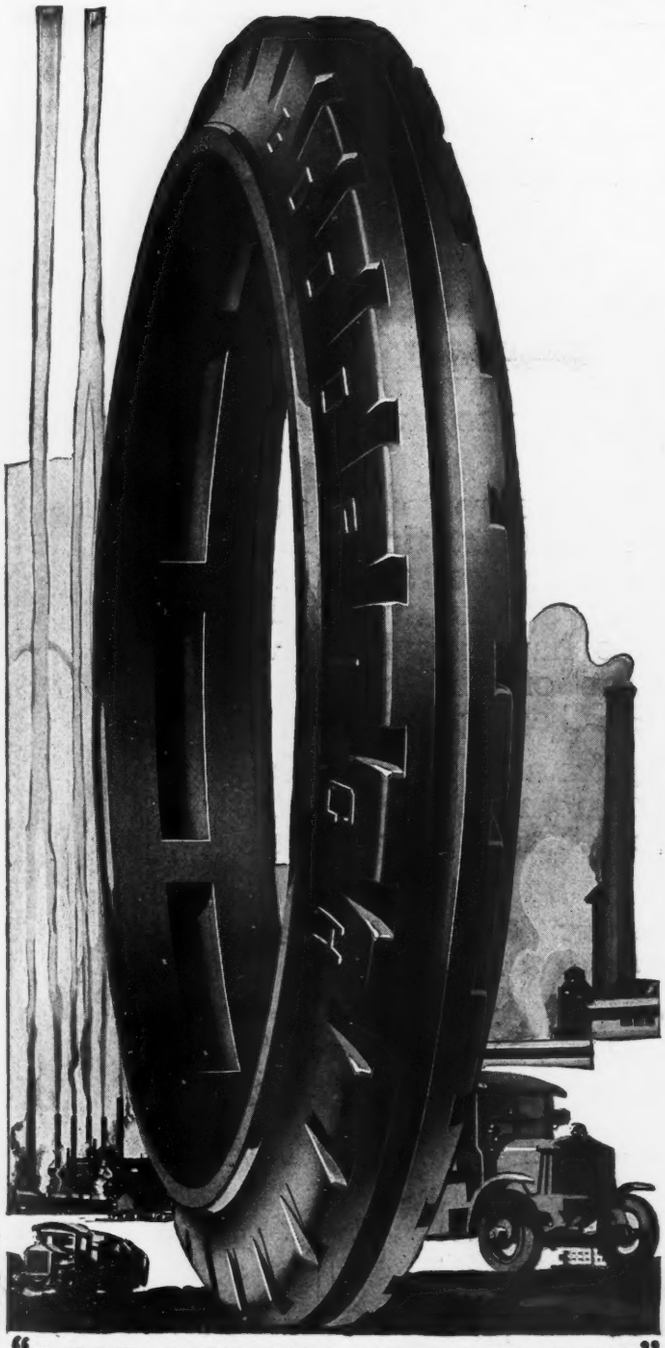

"BEST IN THE LONG RUN"

If it's not a Goodrich *it's not a* Semi-Pneumatic

Goodrich has given a new word to the automotive world, *Semi-Pneumatic*. See that you know what it means. It is the name of the original one piece steel base, hollow center truck tire. Solid rubber where you need it; air space where you must have it. The virtues of both Solids and Pneumatics without the limitations of either.

And mark this: Only Goodrich makes Semi-Pneumatics, and the name stamped on the tire is your guaranty.

Its outstanding performance, a striking record of achievement, challenges comparison. A matchless contribution to trucking. It widens the operating range of a truck, reduces vibration, and delivers amazing mileage.

The nearest Goodrich Truck Tire Distributor has a remarkable story of Semi-Pneumatics to tell you.

THE B. F. GOODRICH RUBBER COMPANY
ESTABLISHED 1870

Goodrich
Semi-Pneumatic
TRUCK TIRE

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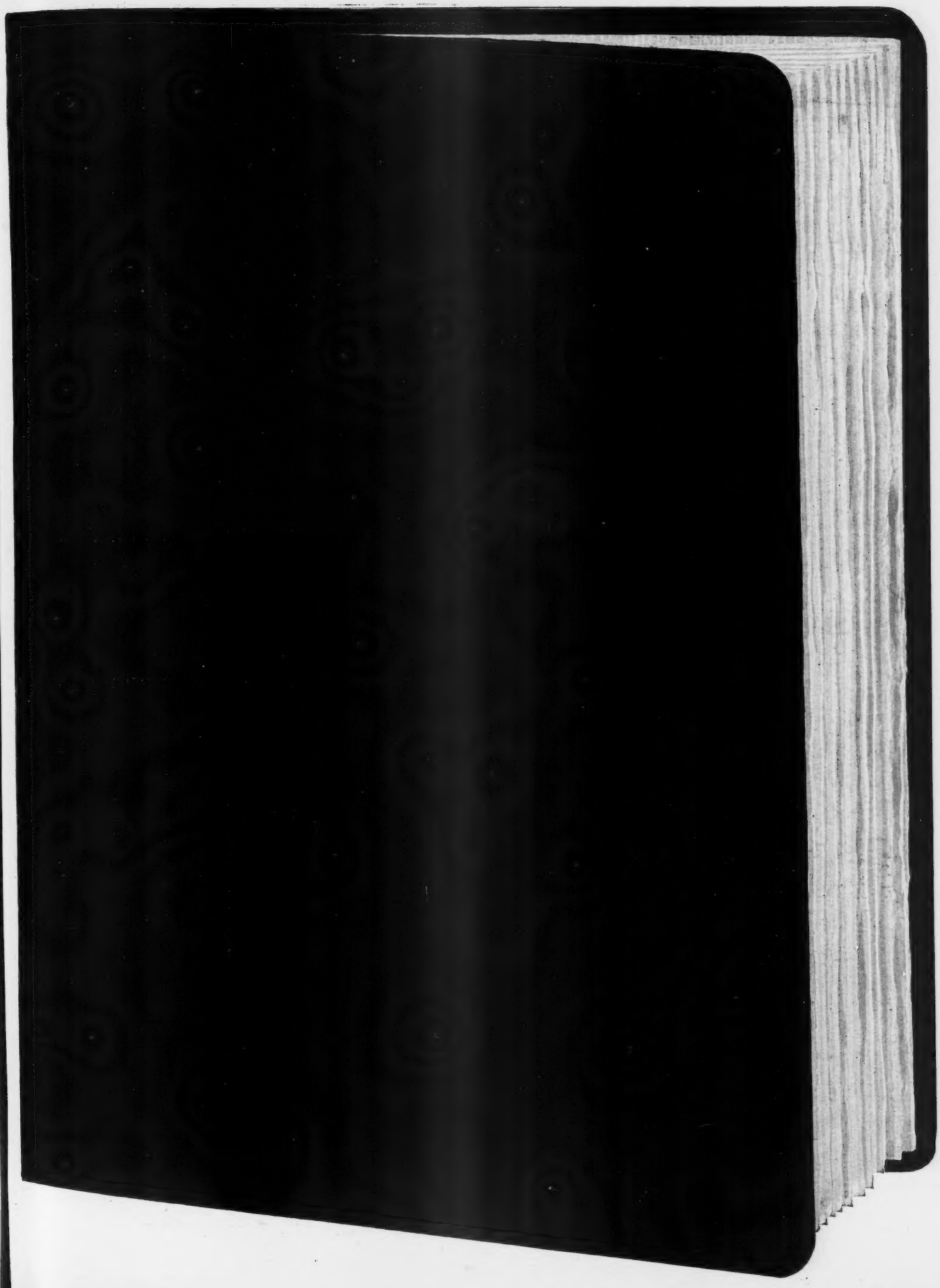
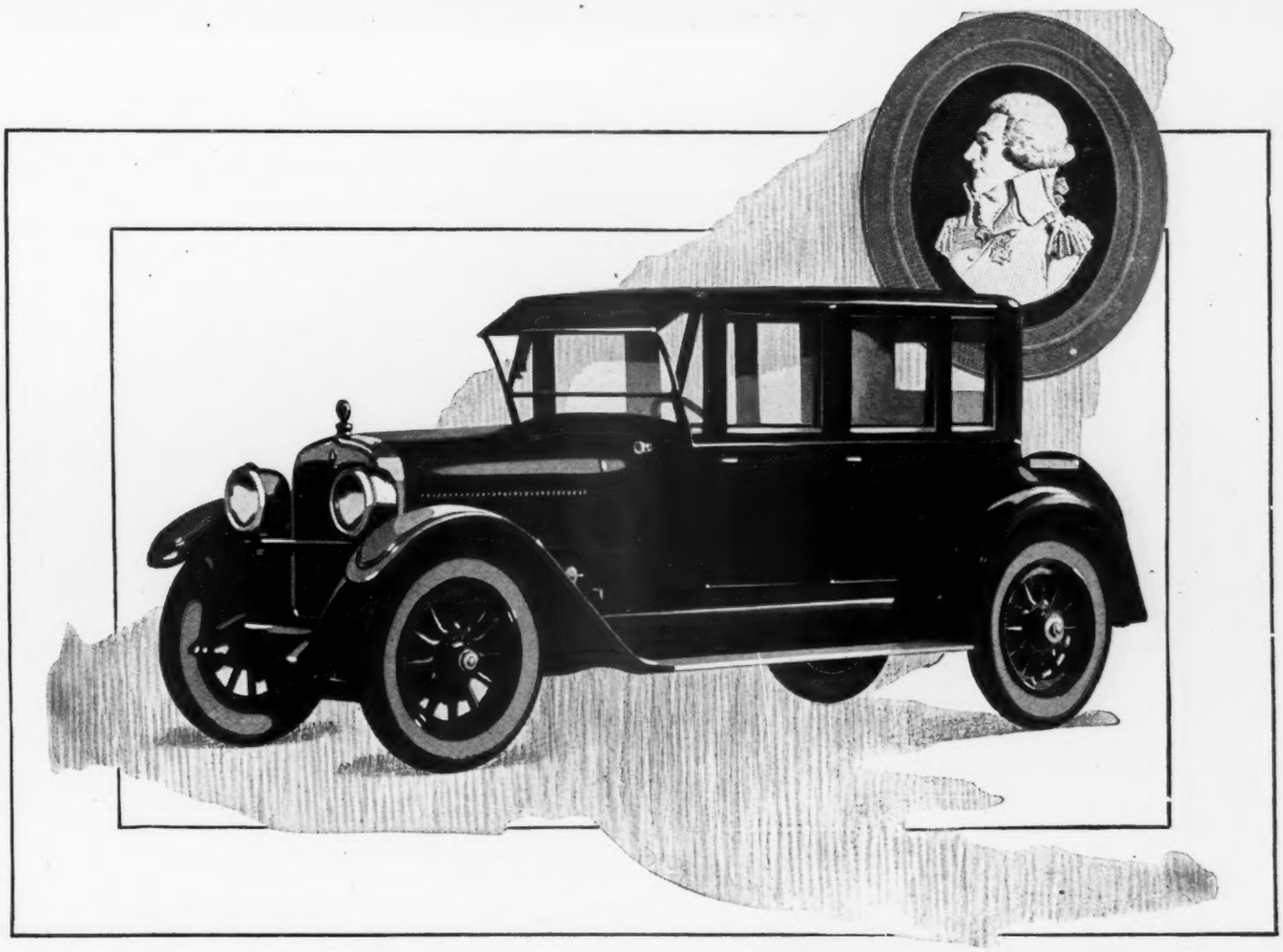
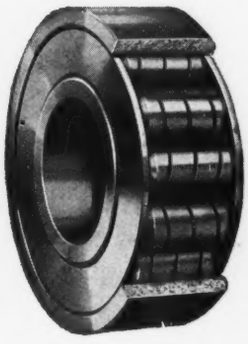


Foreword
PROMISES of factory cooperation by the STANDARD MOTOR TRUCK COMPANY are not empty phrases designed to wheedle a dealer into taking his quota. They are sacred obligations to be fulfilled in a specified time, place and manner.
Standard
DETROIT
USA





THE La Fayette provides an excellent example of what can be accomplished in fine automobile building where quality of materials and precision of workmanship are held to rigid standards.

Hyatt roller bearings have again demonstrated to a quality car manufacturer the desirable results that are assured through the use of these bearings.

By building Hyatt bearings into the transmission an appreciable contribution has been made to the strength and quiet operation of the La Fayette car. They also help to give the driver that serenity of mind which comes of the knowledge that the mechanical construction of his car is dependable—always.

HYATT ROLLER BEARING COMPANY

Newark Detroit Chicago San Francisco

Worcester Milwaukee Huntington, W. Va. Minneapolis Philadelphia
Cleveland Pittsburgh Buffalo Indianapolis

HYATT

Quiet

Roller Bearings

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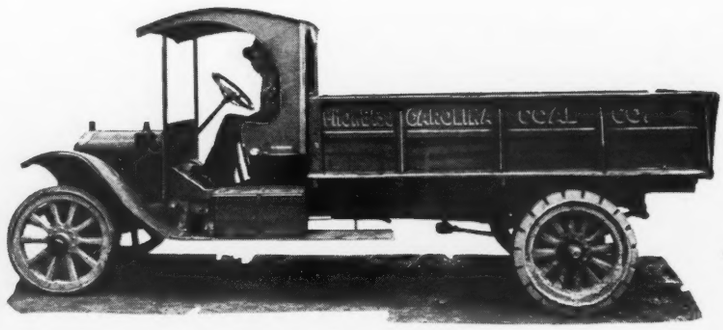


Says Kelly Kats reduce truck maintenance cost

One of the big items of expense in operating a truck is wear and tear on the truck itself. This expense can be greatly reduced by proper cushioning.

Concerning this subject, the Carolina Coal and Ice Co., of Asheville, N. C., in a recent letter, says :

> "We have used Caterpillar tires on the rear wheels of our 2 ton White truck for over a year and believe that the low maintenance cost of this truck is largely due to the cushioning and traction of these tires."

Kelly Kats not only provide cushioning which keeps down maintenance cost, but they also furnish traction which reduces operating cost and deliver mileage which cuts down tire cost.

There are no Caterpillar tires but Kelly Kats

KELLY-SPRINGFIELD TIRE COMPANY

250 West 57th Street, New York

KELLY KATS

THE TIRES WITH NINE LIVES

A complete truck line—1½, 2, 3, 3½, 4 and 6 ton capacities, and the Service Speed Truck

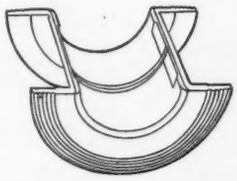
Choose your line by its operating record

THE operating record of the truck you sell makes your franchise an asset or a liability—because trucks are bought today on the record of yesterday.

This operating record is a factor *you* cannot change. It depends upon the factory's engineering development of the truck and the character of service rendered by the factory to truck dealers and owners.

The splendid record of Service Trucks is the logical result of better design, superior units, more expertly developed assembly and a tireless willingness to serve our dealers and truck owners.

Investigate the Service record for yourself. Then let us explain the sound engineering and merchandising principles that have built the Service business.



Why Service Leads

Heat radiating flanges on the main bearings and connecting rod bearings of the Service power plant save "burning out" and lengthen bearing life, meaning a big saving of repair costs.

In the ordinary bearing the bearing metal becomes comparatively hot before the heat can escape thru the surrounding metal of the connecting rods and crank-shaft, and the result is often the melting of the bearing metal. In heat radiating bearings the heat is conducted to the perimeter of the corrugated flange and rapidly dissipated.

The counter-balanced crank-shaft, scientific manifolding, removable cylinder heads, machined combustion chamber and extra size water spaces, are only a few of many Service power plant advantages. You'll find more genuinely valuable construction features in Service Trucks than in any other.

SERVICE MOTORS, Inc.
Wabash, Indiana

Service
MOTOR TRUCKS
Scientifically Cushioned

With the Red Pyramid on the Radiator

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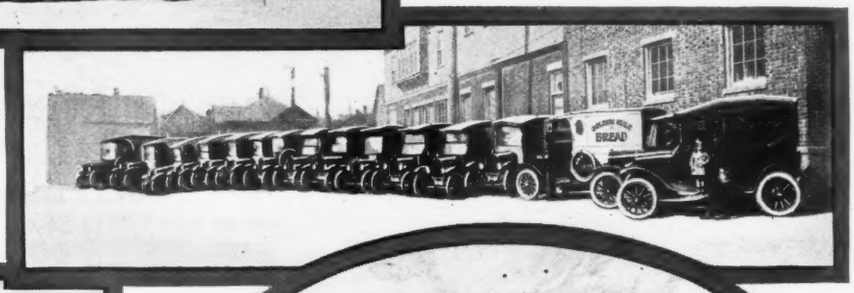
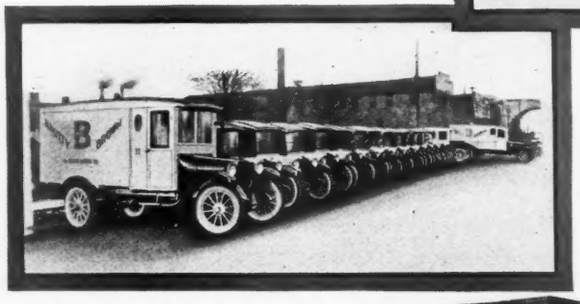
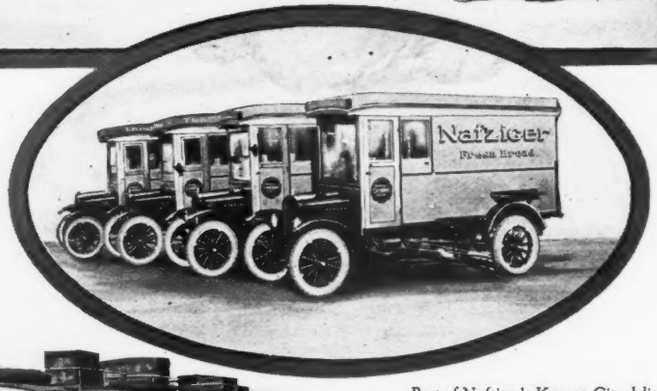
More Bakers Swing to Generals
—They'll tell you why

14 trucks and 2 touring cars of the Golden Rule Bakery, of Cincinnati. 64 wheels in all —and a General on each wheel.

Generals are great favorites in El Paso, Texas. Here are 7 delivery trucks of the Purity Bakery of that City —all 100% General equipped.

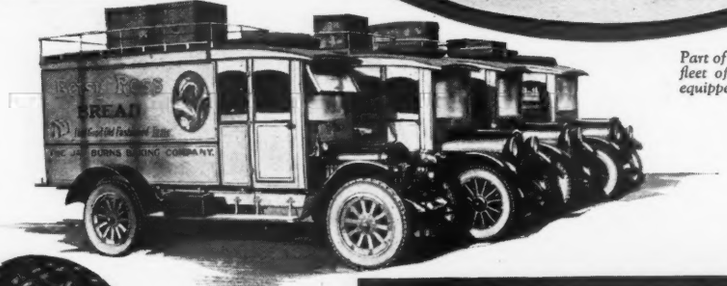




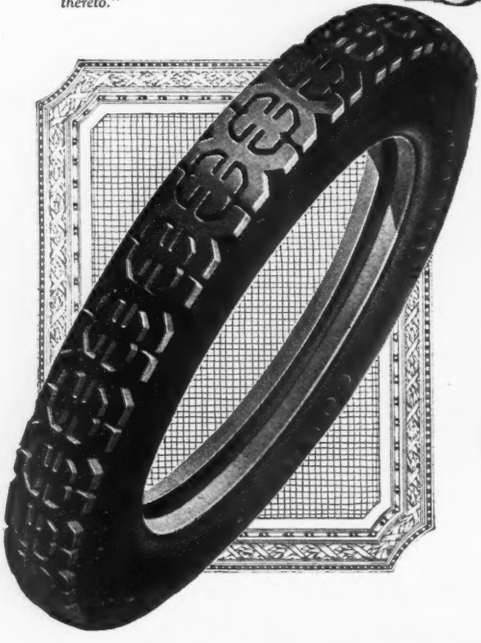


"Generals not only 'go a long way to make friends' but a much longer way to keep them." So says Mr. E. D. Kaulback, president of the Bixler Baking Co., of Youngstown, Ohio, whose fleet is pictured here.

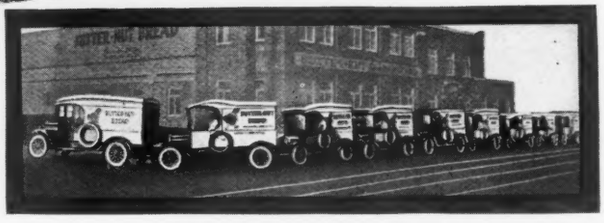
Part of Nafziger's Kansas City delivery fleet of 57 trucks. The entire fleet is equipped with Generals all around.



The Jay Burns Baking Co., of Omaha, write: "We standardized on General tires August 1, 1922. Our records show increased mileage and decreased cost from tire troubles and delays incident thereto."



—goes a long way to make friends



The Butter-Nut Baking Co., of Tacoma, think so much of Generals that they recently signed a two-year contract calling for Generals exclusively on their delivery trucks.

THE
GENERAL
CORD TIRE

THE GENERAL TIRE AND RUBBER CO.
AKRON, OHIO, U. S. A.

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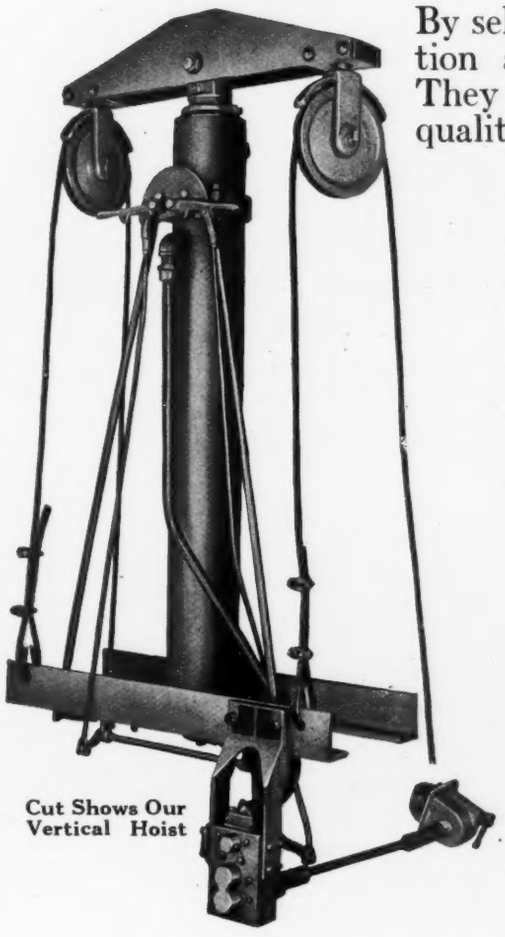
Boost Your Hoist Business



Cut Shows Our Vertical Hoist

By selling your customers on the sound construction and exclusive features of St Paul Hoists. They will satisfy the most critical, both as to quality and as to price.

Our widespread system of service stations saves you the necessity of carrying a stock model. Our agents will gladly demonstrate St. Paul Hoists to your prospects.

And when you've made your sale, we will save you trouble with installation, by delivering the hoist with mountings designed for your truck.

St. Paul HYDRAULIC Hoists

Strength, light weight, and reduced chassis space requirements, are big selling points for St. Paul Hoists. Every hoist tested beyond lifting capacity.

Truck Makers: Write for Our Proposition.

are made in both *vertical* and *underbody* types. No sub-frame is required for mounting the underbody type. Both types have standard power take-off.

Prices: Vertical type, for trucks of 3 ton capacity or less, **$320;** 3½ ton or over, **$350;** Underbody type, ¾ to 1½ ton capacity, **$220;** 3 ton or less, **$340;** 3½ ton or over, **$375.** Prices F. O. B. St. Paul.

Write us today for catalog and liberal terms, and begin selling St. Paul Hoists at once. Make a note of the address of our nearest agent.

ST. PAUL AGENCIES AND SERVICE STATIONS

BALTIMORE, MD., Kunkel Service Co., Light and Lee Sts.
BILLINGS, MONT., F. B. Connelly Machinery Co.
BIRMINGHAM, ALA., Birmingham Motor Co.
BUFFALO, N. Y., Truck Equipment Co., 1016 Lafayette Ave.
CAMBRIDGE, MASS., Springfield Com'l Body Co., 80 Charles River Road
CHICAGO, ILL., Jacob Press' Sons, 501 W. 33d St.
CINCINNATI, OHIO, Kelly, Roth & Co., 509 Depot St.
CLEVELAND, OHIO, American Coach & Body Co., 3809 Clark Ave.
DAVENPORT, IOWA, Hydraulic Hoist Co., 417 W. 3rd St.
DETROIT, MICH., Hydraulic Hoist Mfg. Co., 5730 Michigan Ave.
KANSAS CITY, MO., National Steel Products Co., 1611 Crystal Ave.
KANSAS CITY, MO., Standard Steel Works, 16th and Holmes Ave.
LOS ANGELES, CAL., Arthur L. Eaton, 3769 Moneta Ave.
MINNEAPOLIS, MINN., Hydraulic Hoist Co., Hennepin and 10th Ave., S. E.
NEWARK, N. Y., Arcadia Trailer Corporation.
NEW YORK CITY, N. Y., Interboro Hoist and Body Corp., Borden Ave. and Van Dam St., Long Island City.
OKLAHOMA CITY, OKLA., American Tank Co.
PHILADELPHIA, PA. Rodenhausen's Excelsior Wagon Works, 1437 N. Hutchinson St.
PITTSBURGH, PA., Hydraulic Hoist and Body Co., Braddock Ave. and Kensington St.
PORTLAND, ORE., Fred Dundee, E. Water and Salmon Sts.
ST. LOUIS, MO., Rogers Schmitt Wire & Iron Co., 1815 N. 23rd St.
SAN FRANCISCO, CAL., Arthur L. Eaton, 40 McDougal Court
SEATTLE, WASH., Earl B. Staley Co., 1002 E. Seneca St.
SPOKANE, WASH., Marsh-Strickle Motor Co.
SPRINGFIELD, MASS., Springfield Com'l Body Co., 385 Liberty St.
WASHINGTON, D. C., Witt Will Co., Inc., 52 N St., Northeast

Hydraulic Hoist Mfg. Co.
292 Walnut Street
St. Paul Minn.

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HAULING MILK
in glass lined truck tanks

a new field in which you can sell MORE TRUCKS

The Pfaudler Co., makers of Glass Lined Steel Truck Tanks, Rochester, N. Y., announce their intention to sell their equipment through reliable dealers.

Today, in the dairy industry, there is a definite field for glass-lined milk truck tanks and there are many truck dealers cashing in on this idea. Our proposition has no "strings" attached to it—it consists of a very substantial commission on all sales made and we shall be glad to outline in a letter (without obligation to you) the details of our offer.

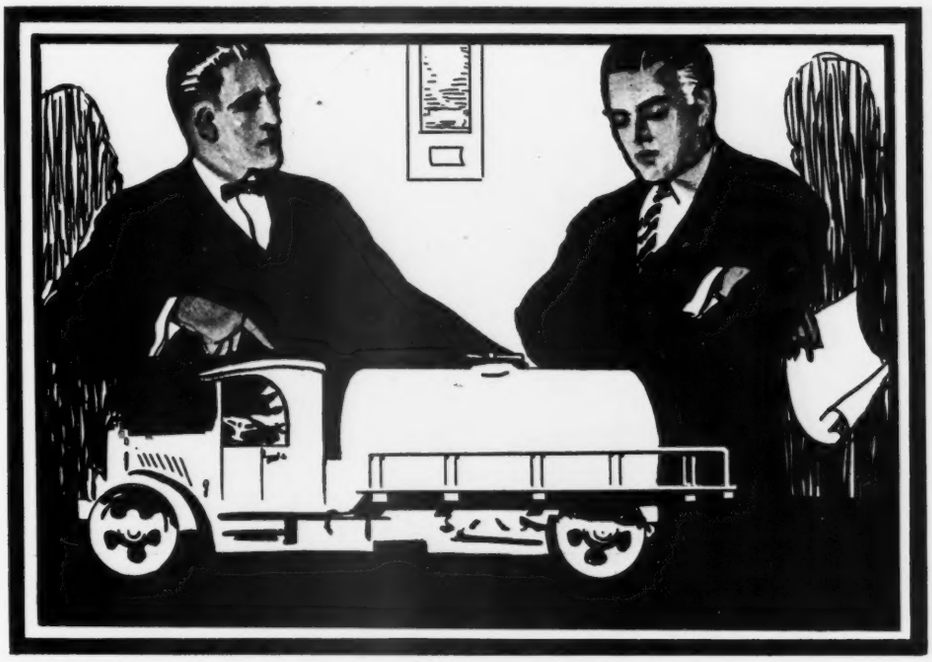
Aside from the commission, the glass lined truck tank is a "leader" for the sale of more trucks. One dairy using 4 Pfaudler truck tanks, reports:

Eight men eliminated, formerly employed to handle cans.
Saving of $20.00 per day freight.
Much purer milk (no souring or high bacterial counts).
Elimination of can investment, which figures higher and is subject to greater depreciation than the truck tank.
Elimination of can-washing machinery.
Saving of 1500 pounds of coal daily by centralization of sub-receiving plants into one main receiving station.
Elimination of spillage and saving of milk formerly lost clinging to cans.
Transportation of milk with scarcely any increase in temperature on the hottest days.
Increase in business through advertising this more sanitary equipment.

Pfaudler Glass Lined Truck Tank operated by Franklin Co-operative Creamery Association, Minneapolis, Minnesota.

Part of a fleet of 23 Pfaudler Glass Lined Truck Tanks operated by Detroit Creamery Co., Detroit, Michigan.

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION



"At a substantial commission on every sale, this glass lined milk truck tank is a real 'leader'—"

Let our personal representative call on you and tell you the whole story of how the Pfaudler Milk Truck Tank can help you sell more trucks and at the same time give you a fine commission on every sale you make. You will not incur any obligation by this call.

In any case send for our truck tank manual (no obligation).

THE PFAUDLER CO.

Makers of Glass Lined Steel Truck Tanks

ROCHESTER, N. Y.

Branches at: **NEW YORK CHICAGO SAN FRANCISCO ST. LOUIS BOSTON PHILADELPHIA ATLANTA SYDNEY LONDON**

While the second hand on your watch ticks around once you can clip, sign, and mail the coupon. DO IT NOW!

Tear Off Here

THE PFAUDLER CO.
Rochester, N. Y. 1923

Gentlemen:

We would be glad to hear from you, telling us about your glass lined milk truck tank, explaining the commission arrangement, and giving complete details.

☐ Send Your Truck Tank Manual
☐ Send Your Representative

(NO OBLIGATION)

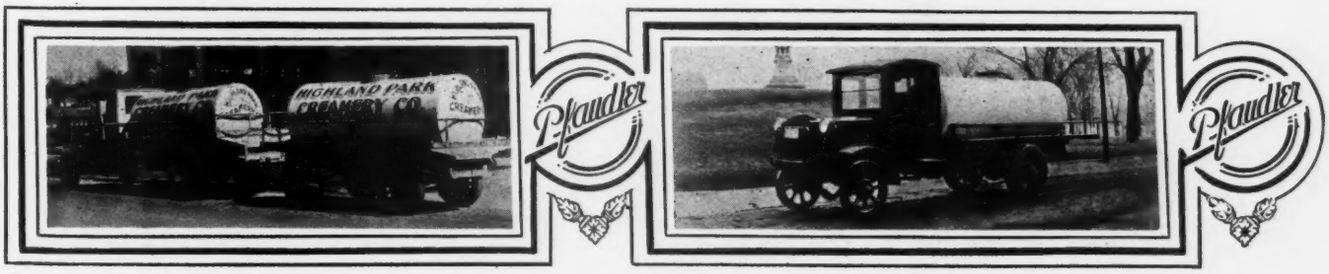
Firm Name.....

Address.....

Individual .....

(C.C.J. 7-23)

use this coupon



Pfaudler Glass Lined Truck Tank and Trailer—one of two units operated by Highland Park Creamery Co., Highland Park, Mich.

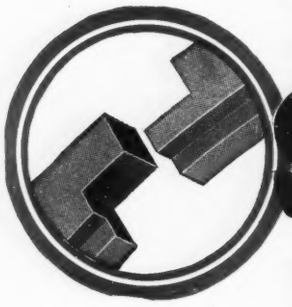
One of two Pfaudler Truck Tanks, F. X. Baumert Co., Inc., Antwerp, N. Y.

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

Gill

Gill, Special, and Servus piston rings are all lathe-turned for quick seating. *Your customers feel the difference in performance quickly.*

All three rings have the same special grey iron composition, immune to heat, with peak wear-resistance. *The job you do with these rings lasts.*

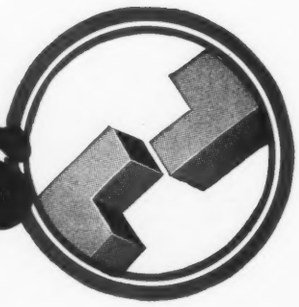


Special

Famous Gill Interlocking-Joint is 75c, Special Oil-Wiper 50c, Servus Step-Cut 30c. Each is a top value. *Your bill is right.* And you can give good service because there are 36 factory branches keeping stocks complete.

GILL MANUFACTURING COMPANY
8300 South Chicago Avenue, Chicago
Canadian Factory—415 King St. W. (Brown Engineering Co.), Toronto
Sole Canadian Distributor—Canadian General Electric Company, Limited
Export—American Steel Export Co., Woolworth Building, New York City

Servus



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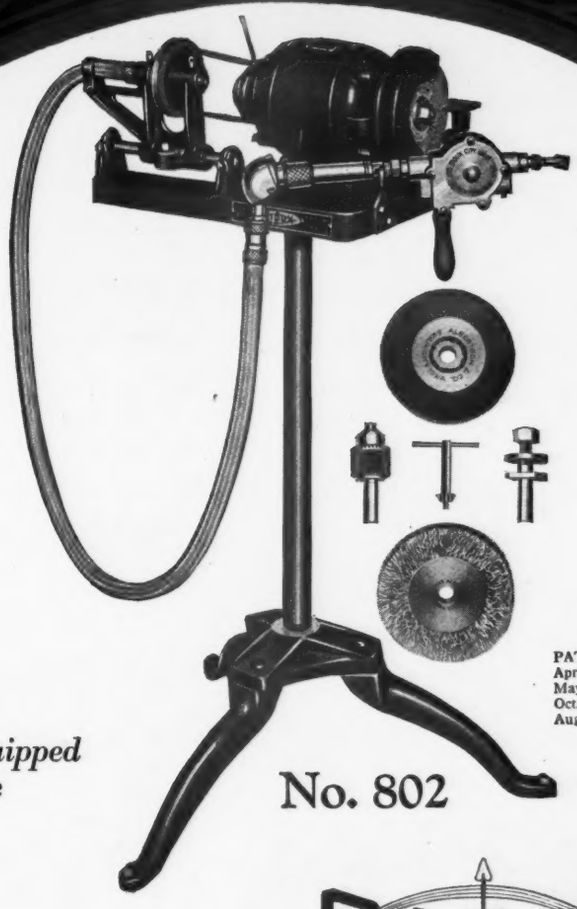


PATENTED
April 12, 1909
May 21, 1912
Oct. 22, 1918
Aug. 2, 1921

"The Well-Equipped Shop Gets the Business"

No. 802

SIOUX
Trade Mark Reg U.S. Patent Office

Transmits Power Exactly Where You Want It

Has unlimited uses in every shop. Especially adapted for Valve Grinding, Emery wheel grinding, Drilling, Reaming, Polishing and Cleaning Carbon.

For Valve Grinding, the 3-speed pulley provides the correct speed, low for large valves, higher for smaller valves. A control enables you to stop and start at will the tool being used.

For Emery Wheel Grinding, you can get into inaccessible places. Especially handy in welding work for smoothing out the weld.

A special feature of the Sioux Flexible shaft is the Emery wheel,—6-in. x ½-in—equipped with guard and tool rest—permanently attached to the motor for use in grinding tools and other small parts.

Full Information Sent on Request

Ask Your Jobber About It

Write for Catalogue of Sioux Tools and Valve Seat Reamer Specifications

ALBERTSON & CO. SIOUX CITY, IOWA

SIOUX FLEXIBLE SHAFT AND ATTACHMENTS

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

How Would *You* Like to Sell 25 Trucks a Month?

A certain dealer orders 25 Transport Trucks a month and sells them in a territory where competition is more strenuous than anywhere else in the United States.

Can you think of any other business that would pay even a third as well, on the same investment? Transport dealers are making money. And *their customers* are making money on the kind of service Transport Quality Trucks give them.

That's why the Transport Two-a-Week Club is growing so rapidly. [At least two truck sales a week. Many are going 'way beyond that.]

Why *You* Can Do It!

1. Transport performance
2. A full line
3. Complete equipment
4. A practical plan for *locating* prospects and developing sales.

Models and Capacities
Including Electrical Equipment
Model 15, 2000 lbs. max.
Model 26, 3000 lbs. max.
Model 36, 4000 lbs. max.

May we tell you more about our two-a-week opportunity?

TRANSPORT TRUCK CO.
Mt. Pleasant, Michigan

Models and Capacities
Including Electrical Equipment
Model 55, 6000 lbs. max.
Model 61, 7000 lbs. max.
Model 75, 10,000 lbs. max.

Transport is a Specialized Truck **Every Unit Nationally Serviced**

Transport fleet in the service of Walled Lake Consolidated School, Detroit

TRANSPORT

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

Smashing all records

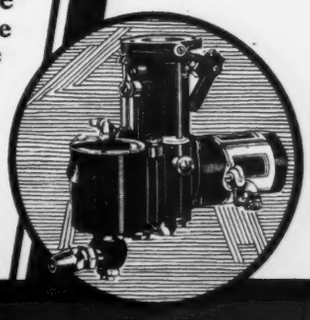
ONCE more Stromberg does it! A stock Dusenberg straight eight five-passenger touring car recently established a World's Record Endurance mark. This car was equipped with a new Stromberg Carburetor 3155 miles were covered in fifty hours, twenty-one minutes and one second — average speed of 62.63 miles per hour. It was a non-stop affair with exception of three short halts for tire changing. Run was made under observation of American Automobile Association on Indianapolis Motor Speedway.

Wherever records are shattered—wherever great endurance tests are to be made—where engine grueling is necessary—there you'll find Stromberg furnishing the proper gas mixture; making sure of flexibility and unfailing engine efficiency in general.

On any car—under every conceivable condition—the special Stromberg Carburetor insures perfect motor performance—easy starting—more power and speed—a quick pick-up and actual economy in summer or winter—uphill and down.

There is a special made Stromberg for every car—see your dealer or write us. State name, year and model of your car.

STROMBERG
MOTOR DEVICES CO.
Dept. 736
61 E. 25th Street, Chicago, Ill.



New STROMBERG Does it!
CARBURETOR

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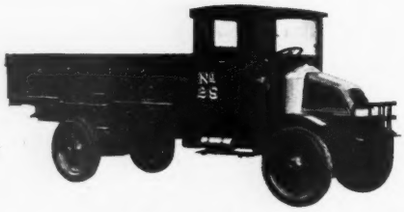
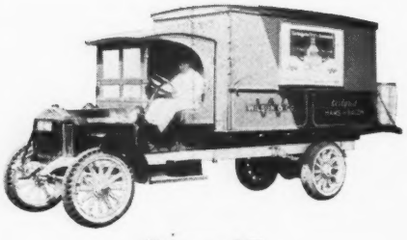
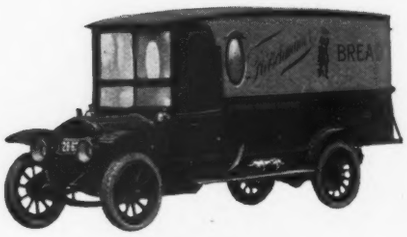


Kelly-Springfield



Diamond T



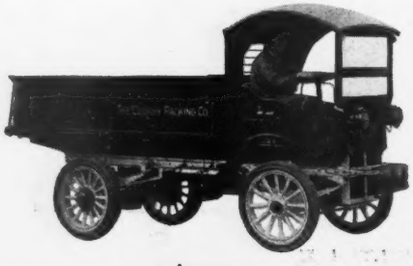
White

Rumely

Republic

Armleder

Brockway



Autocar

The Foremost Truck

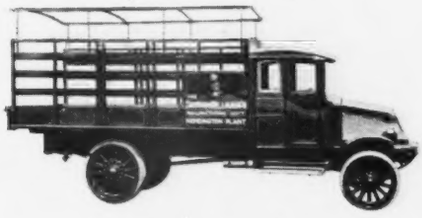
THERE can be only one reason why so many trucks come from their factories equipped with Prest-O-Lite Gas for lighting. That reason is, that the builders of these trucks have found Prest-O-Lite Gas the best truck light by every standard.

In part, their decision must be based upon the fact that their trucks, with Prest-O-Lite equipment, are assured of a steady, fog-piercing light, unaffected by the hardest bumps of the roughest roads.

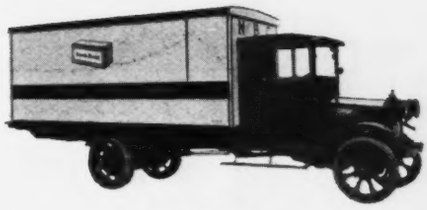
In part, their decision must depend upon the fact that this light for trucks has the approval of all public authorities.

In part, their choice of Prest-O-Lite equipment is based upon the fact that there are over 22,000 Service Stations spread across the country, where the driver of their truck can get 30 or more hours of continuous light, by

Garford



International



Pittsburger

Lighting Equipment

exchanging an empty Prest-O-Lite tank for a full one and paying only for the gas.

These manufacturers have chosen Prest-O-Lite as the light for their trucks only after the most thorough and exacting tests, because they realize how much the satisfaction of the truck owner and the productive service of the truck depend upon good lights.

No matter how your trucks are now equipped, you can easily and economically change them to Prest-O-Lite equipment—"the oldest service to motorists"—tested by time and proved by practical experience.

THE PREST-O-LITE CO., Inc.

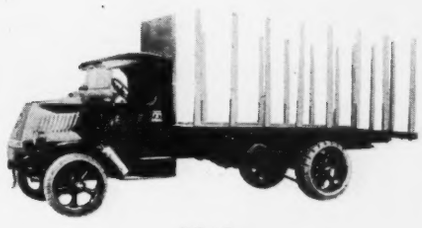
Small Tank Sales Department

General Offices: Carbide and Carbon Bldg., 30 East 42nd Street, New York; 599 Eighth Street, San Francisco

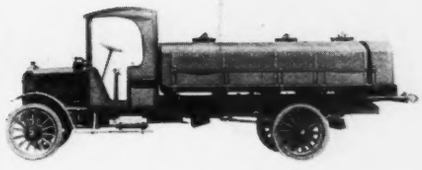
In Canada: Prest-O-Lite Company of Canada, Limited, Toronto

There is a complete line of Prest-O-Lite appliances, such as Torches, Soldering Irons, Paint Burners and the like to be used with the Prest-O-Lite Gas Tank for soldering, brazing, etc. Prest-O-Lite Gas is not only the best truck light, but it is a clean, economical and highly convenient fuel for many repair purposes.

G. M. C.



Mack



Noble

Selden

Indiana

AMERICAN Springs

are always

UNIFORM

Scientifically determined heat treatment, mechanically controlled, guarantees absolutely uniform results. Every spring leaf is machine formed—not hammered to fit—and oil tempered while still in the forming die. Even the drawing of the temper is mechanically controlled.

Every American Spring is inspected after each operation and each completed spring is tested under load conditions.

You can depend on American Springs.

AMERICAN AUTOPARTS COMPANY

9779 French Road **Detroit, Mich.**

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

Make your Service dependable with SPLITDORF Ignition

THE new Splitdorf Model SS Magneto means freedom from ignition troubles. Not only that, but the sparks from this instrument are so intense in heat, so positive in action, so vigorous in strength and so dependable in service that they make an old engine throb with new energy—more power, easier starting, less gas and NO worry.

It is for these reasons that Splitdorf Ignition Specialties are now being used so extensively to replace the original ignition equipment on trucks, buses and tractors where the service demands a self-contained, always dependable ignition.

SPLITDORF ELECTRICAL COMPANY
Newark, N. J.

Custom Moulding a Specialty

TRADE SPLITDORF MARK
ESTABLISHED 1858

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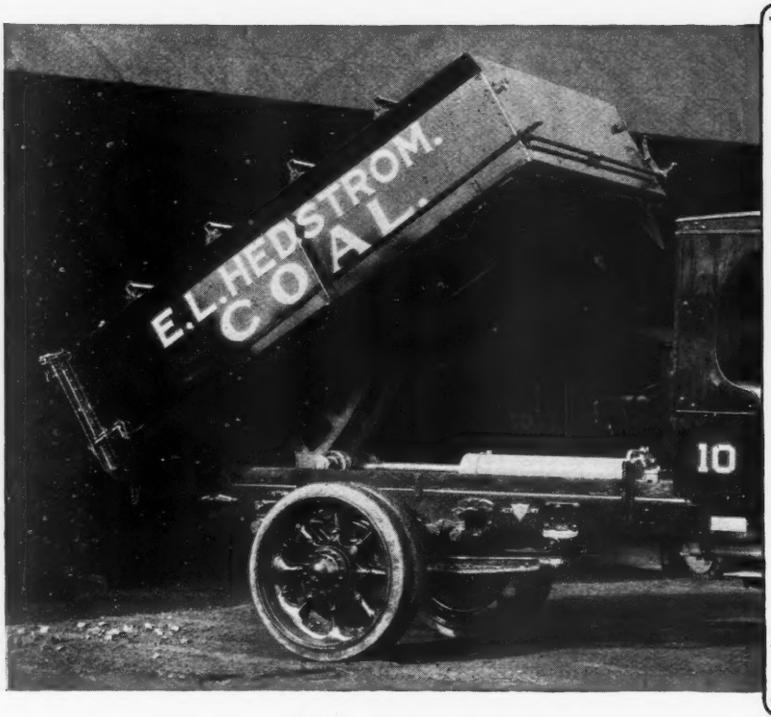


"The first Wood-Detroit proved the superiority of the hydraulic hoist; the many thousands built since have demonstrated their fitness for their task."

Gar Wood

PREDOMINANT

Because They Fit the Work

Wood-Detroit Hydraulic Hoists and Steel Bodies—developed in the early days of the industry—have maintained their leadership easily, for the simplicity and dependability peculiar to this hoist has been supplemented by a careful fitting of the bodies to the requirements of different lines of business.

Sales and Service:

New York	Indianapolis
Boston	Knoxville
Pittsburgh	Cleveland
Philadelphia	San Francisco
Buffalo	Los Angeles
Harrisburg	Seattle
St. Louis	Portland
Chicago	Denver
Minneapolis	Salt Lake City
Kansas City	Richmond, Va.

Canadian Factory: Windsor, Ontario

WOOD DETROIT

Built by "Gar" Wood

Besides the standard line of bodies, many special designs have been worked out to meet the needs of customers. We shall be glad to advise the best units for any business.

Wood Hydraulic Hoist & Body Co.

World's Largest Builders of Hydraulic Hoists and Dump Bodies

7924 Riopelle Street **Detroit, Mich.**

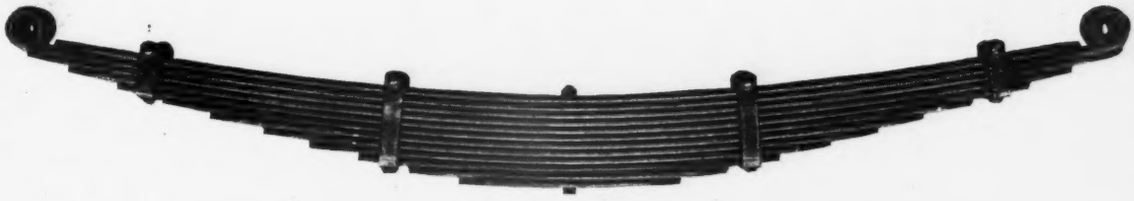
THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

Why is a Chassis Spring Specification?

WHY is it a protection to the Truck Owner?
WHY is it a safeguard for the Truck Builder?
WHY is it an asset to the Truck Dealer?
WHY is it a profit maker for the Repair Man?

AND

HOW can you be sure you get springs for replacement that are "built to the truck makers' specifications"?



To Serve the Car Owner is to Serve the Industry

Detroit Steel Products Co

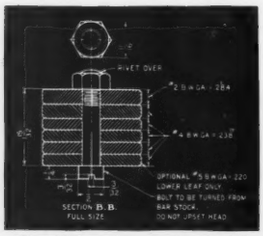
The Truck Makers' Chassis Spring Specifications Determine the Only Correct Springs for Every Truck

And *only* the correct springs—correct in steel composition, correct in every dimension—can properly carry the load, conserve the life of the engine, chassis, body and tires and insure true riding qualities and *protection for the owner*. How can anything less safeguard the truck builder's interests?

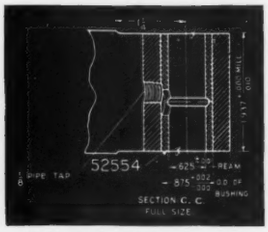
And again because chassis spring specifications serve as an exact guide for the correct building of replacement springs as well as springs for original equipment they are *an asset for the truck dealer*. They help keep his trucks running—they serve his best interests, too.

Here is Part of a Chassis Spring Specification

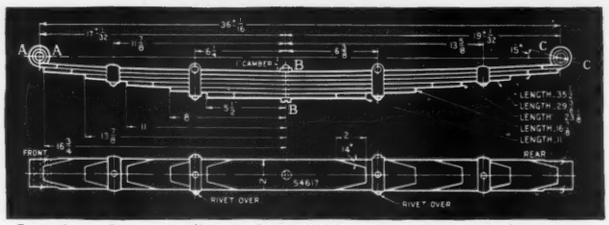
The steel composition is definitely specified.



Specifying the varying thickness of the spring leaves, and center bolt construction.



Dimensions of the spring eye and bushing specified to 1/1000 of an inch.



Location of spring clips and the height of camber are shown here.

This is only part of the specification for *one* truck, relating to *one* spring on a single model—only four out of a total of eighteen requirements which the original spring equipment must meet *exactly*. Surely they indicate as well why every broken spring should be replaced with a spring that is built to the Truck Makers' Specifications.

And here is where *the repair man's profit* comes in. The right springs fit exactly. They can be installed easily and quickly—replacement time is saved. Then they give his customers better service and keep them satisfied. Better profits are insured. "To serve the owner is to serve the truck dealer, the repair man—the industry as a whole."

DETROIT SPRINGS
For Replacement
BUILT TO THE CAR MAKERS' SPECIFICATIONS

How You Can Be Sure To Get Replacement Springs "Built to the Truck Makers' Specifications"

The making of specification springs for original equipment or for replacement requires engineering skill, manufacturing experience and above all a tremendous investment in production facilities.

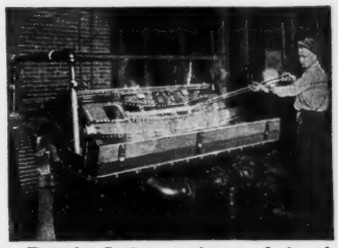
It requires a tremendous stock of spring steel in varying widths, thicknesses and composition. It requires the most accurate of instruments, special forming machines, testing machines, heat treating furnaces—an enormous outlay in equipment.

How can a blacksmith or any small repair shop have equipment like this? The only way then that you can be *sure* is to get springs that are built by a reputable manufacturer—a manufacturer who makes millions of springs for original equipment and for replacement.

Part of the Equipment and Materials Needed to Build Springs to the Truck Makers' Specifications

The Big Detroit Steel Products Company warehouse contains about 125 types and sizes of carbon and alloy steel—more than 10,000 tons of steel!

Batteries of special eye making machines produce main plate spring eyes which are parallel and make assembly of the spring to the car or truck easy.



Detroit Spring engineers designed the special spring forming machines, of which this is one of many, producing a complete spring with each revolution of the head.

Heat treatment is the critical point in the making of springs. Detroit Springs are treated in electrically controlled gas conveyor furnaces which keep the temperature with a variation of less than 10 degrees during this critical time.

On this assembly conveyor line, half a city block in length, nearly 3,000 tons of Detroit Springs are assembled, lubricated and inspected each month.

This sureness is made doubly sure when you buy Detroit Springs, because many of the country's largest car and truck manufacturers have chosen them for original equipment and because every Detroit Spring made for replacement is built exactly to the car makers' specifications—*you cannot buy a Detroit Spring that's made in any other way*. And furthermore it's easy to get them. See how on the next page.

A Detroit Spring Distributor Near You Can Quickly Supply a Specification-built Spring for Any Car or Truck

Send for this price book today.

For every limping car or truck that comes to you for repairs you can get a new Detroit Spring that will exactly duplicate the old one—***and get it quickly***.

Detroit Spring Service is nation-wide. Complete stocks of specification-built springs are always held in warehouse at the Detroit Plant. Through a chain of sub-warehouses, located in every section of the country, over a hundred main distributors are kept supplied. These distributors have sub-distributors, dealers and service stations in hundreds of smaller cities and towns, all selected with the greatest care.

In less than 36 hours, frequently less than 24 hours, you can have any type of Detroit Spring you may need.

In less time than it takes to repair a broken leaf you can have a Detroit Spring exactly like the one that's broken. This country-wide spring service will increase your replacement business, decrease delays and protect your profits. Send today for price list and names of the nearest distributors.

DETROIT STEEL PRODUCTS COMPANY
2616 East Grand Boulevard
DETROIT MICHIGAN

DETROIT SPRINGS
For Replacement
BUILT TO THE CAR MAKERS' SPECIFICATIONS

"A *Better* Body Pays"

The body shown is built by Graham Brothers, Detroit, Mich., and Evansville, Ind., who use VEHISOTE Panels *exclusively*. Their trucks and bodies are sold by Dodge Brothers. Dealerseverywhere.

Prestige!

Many of America's greatest industries realize the *advertising value* of VEHISOTE-Panelled Bodies—which radiate the prestige of the name and products they carry. Likewise, body builders have learned that VEHISOTE is easy to work, takes a brilliant finish and gives the best service—consequently reflects credit upon their work. They both agree that for *economy*, *appearance* and *durability* there is nothing to compare with

TRADE **VEHISOTE** MARK

(Wood-Fibre) PANELS

THE PANTASOTE COMPANY

CHICAGO	NEW YORK	DETROIT
Peoples Gas Bldg.	11 Broadway	1446 Penobscot Bldg.

REPUBLIC SERVICE

A challenge to dealers who can measure up

Fleet of 29 Trucks, all Republics, owned by W. A. Simpson, Walker Hill Dairy, Washington, D. C.

THOSE who know, invariably believe that the best possible job has been done in making Republic Trucks. Is that *all* of our job? No. Only half of it. Service must begin where the building of a good truck leaves off.

Because Republic Dealers are the largest factor in that service, Republic has certain definite requirements to which prospective Republic Truck dealers must conform before this coveted franchise is awarded. All dealers cannot measure up. Only a few, in fact, can expect to be considered for the few localities that are now open.

Yet Republic is not unreasonable in its demands. Republic only asks what it gives.

Republic has stability, great financial strength and a rigid responsibility to maintain the position Republic holds in the world's respect. Republic asks that its dealers have a strong standing in and the respect of their communities.

Republic plants, the largest in the world devoted to the exclusive manufacture of trucks, have 600,000 square feet of floor space and a capacity of 3250 trucks a month. Republic dealers must have a broad sales horizon and proportionate facilities.

Republic makes a truck for every job, to fulfill its duties at the lowest cost, five models from 1¼ to 4½ tons maximum capacity. Republic asks that its dealers be able to analyze the transportation problems of the industries of their localities, determining the most efficient operating system, and recommending the right truck to do the work without strain or waste power.

Republic supplies service parts to any point in the United States and many points throughout the world within twenty-four hours. Republic dealers must be able to render *instant* service, and be cognizant of their responsibility to *keep Republic Trucks everlastingly on the job.* Operating costs *must* continue lowest just as Republic *must* continue best.

Republic's national advertising campaign, giving selling cooperation to its dealers, will definitely outline Republic self-compulsory policies — the policies that have made Republic the largest exclusive truck manufacturer in the world.

It is the sum of all these that has made the Republic franchise coveted.

REPUBLIC MOTOR TRUCK CO., *Inc.*
Alma, Michigan

Republic has more trucks in use than any other exclusive truck manufacturer

REPUBLIC

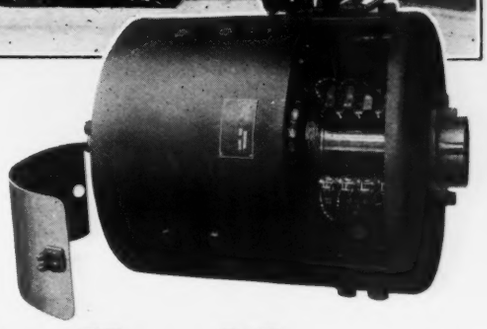
REPUBLIC

The Motor Truck of Service

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

Fleet of Walker Electric Trucks Used by the Old Homestead Bakery, San Francisco, California

Westinghouse Vehicle Motor and Controller



Five Reasons Why You Should Use Electric Trucks

—because of their year-round reliability
—because of their economy
—because of their ease of operation
—because of their simplicity of construction
—because of their long life

The fleet of Walker Electric Trucks, shown above, is equipped with Westinghouse motors and controllers. Think what the combined product of these manufacturers means to you!

The Walker Vehicle Company was a pioneer in the electric trucking field, and today is one of the leading manufacturers.

The Westinghouse Electric & Manufacturing Company pioneered in the manufacture of motors and controllers which have been tried and proven in every industry.

Use Electric Trucks

Westinghouse Electric & Manufacturing Company
East Pittsburgh Pennsylvania

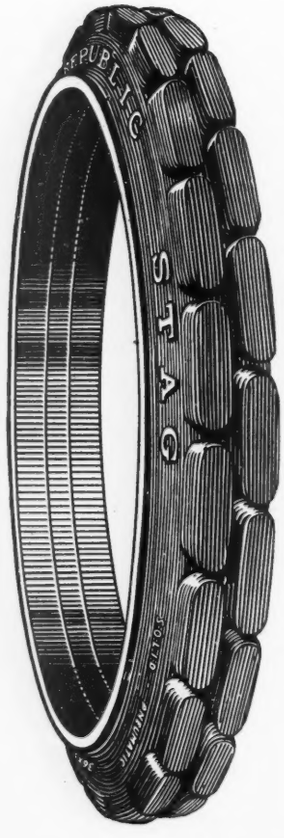
Westinghouse

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

REPUBLIC STAG

Handle the Best Truck Tires— You'll Get the Best Customers

THE famous *Republic Stag* is a solid pneumatic non-skid truck tire with a full contact steel base that fits every type of wheel. And the fact that this wonderful tire is meeting the individual requirements of the majority of truck tire operators is constantly bringing new customers to *Republic* distributors.



The high standard of service set by *Republic* for its distributors sends them many more. The truck operator knows that *Republic* distributors not only sell the best tires, but give the best tire service as well.

There are big profits for you in *Republic Stag*. If your service is in keeping with the *Republic* high quality standards, get in touch with our nearest branch at once.

THE REPUBLIC RUBBER COMPANY
Youngstown, Ohio

District Headquarters

New York	Chicago	Philadelphia	Minneapolis
Kansas City	Cincinnati	Atlanta	Pittsburgh

We are telling the public that this sign means courteous, expert service. Get the Sign of the Eagle over your door.

REPUBLIC TIRES

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

MEAD-MORRISON

MOTOR TRUCK WINCH

Leads the Way to Bigger Profits

Whether it's pulling down a church steeple, hoisting a safe, loading a truck—any one of a surprising number of jobs—the Mead-Morrison Vertical Capstan Winch can do the work! It saves you time and wages for extra men, and makes your truck an all-around useful machine. The Mead-Morrison Motor Truck Winch operates on the idling power of the engine. It is not expensive, and takes but little deck room. Why not let it make more money for you?

MEAD-MORRISON
MANUFACTURING COMPANY
722 Prescott Street
East Boston, Mass.

Multiplies Man-Power
HOISTING – HAULING – HANDLING

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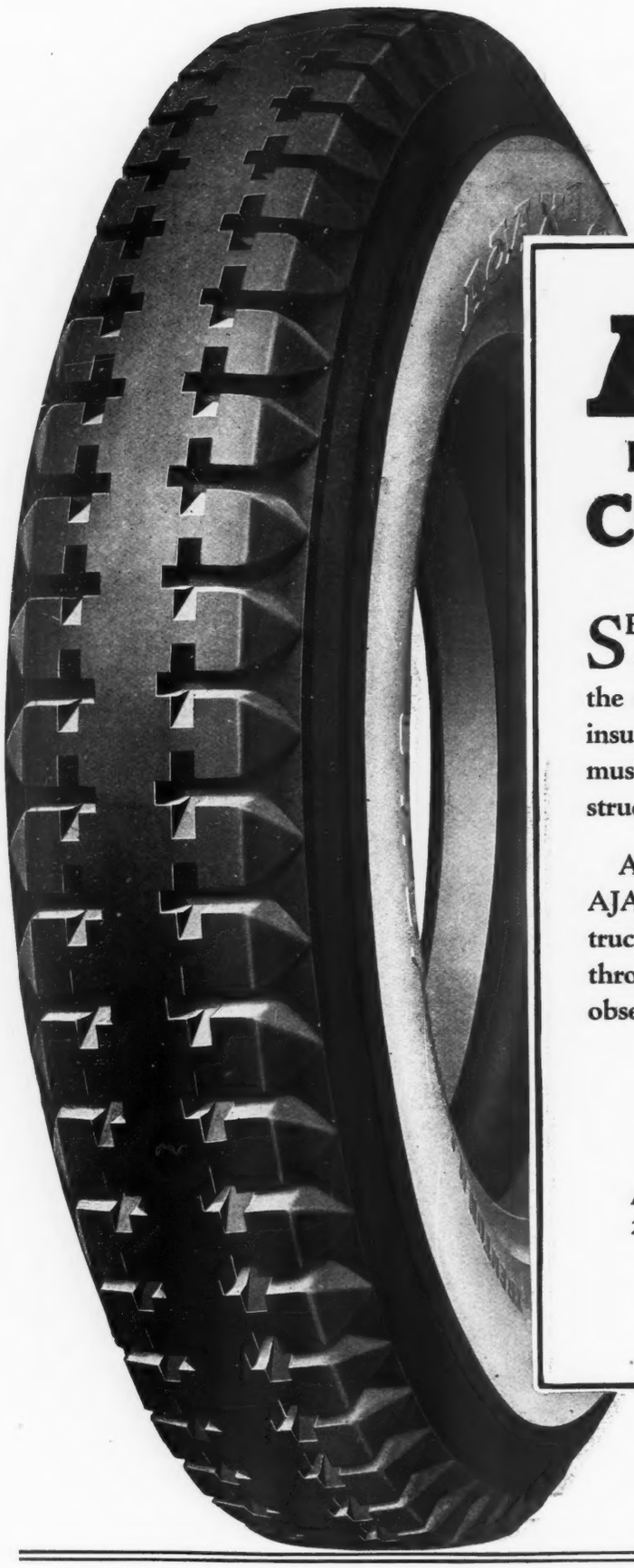

AJAX
PNEUMATIC TRUCK
CORD TIRES

SERVICE and economy in a pneumatic truck tire are dependent upon the enduring qualities built into it. To insure a full measure of endurance, there must be proper balance in materials, construction and design.

Achievement of proper balance in AJAX Cord Tires for motor bus and truck service has been accomplished through long experience and scientific observation of the severest kind of tests.

Motor bus and truck owners are invited to correspond with us on their problems relating to pneumatic cord tires. Make use of this service, without obligation.

AJAX RUBBER COMPANY, Inc.
220 W. 57th Street New York City

Branches in principal cities

NEW FEATURES IN CONSTRUCTION AND DESIGN

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

The Reasons for the Economical Operation of

AMERICAN-LAFRANCE COMMERCIAL TRUCKS

Our claims for the economical operation of American-LaFrance Commercial Trucks are based on more than the sound manufacturing principles, quality materials and skilled workmanship that are found in every truck. They are based also on the ability of our transportation engineers to give valuable co-operation at all times to users of American-LaFrance Commercial Trucks.

Our new booklet called "Facts About Motor Truck Operation" presents the fundamentals of motor truck operation, and gives an indication of what our transportation engineers can do for truck users.

A copy of it awaits your request.

AMERICAN-LAFRANCE FIRE ENGINE COMPANY, INC.

COMMERCIAL TRUCK FACTORY
BLOOMFIELD. N. J.

NEW YORK OFFICE
FISK BLDG., BROADWAY AT 57TH ST.

FIRE APPARATUS FACTORY, ELMIRA, N. Y.

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An Opportunity for Truck Dealers!

Price $28.00 Complete

Only one model for all trucks. Not connected with truck mechanism in any way

Today almost everybody has heard about the Servis Recorder. Thousands of well-known concerns have equipped their trucks with it. Companies like ***Firestone, American Steel & Wire, Loose-Wiles Biscuit Co., Crane Co., Heinz, Washburn-Crosby, National Biscuit, Filene's, Edison Electric, Mex. Petroleum, U.S. Rubber, Colgate, General Electric*** and many, many more.

Why? Because the Servis Recorder "writes down" the very thing the truck owner himself would if he were on the truck for the day.

Help Fill the Demand

When you sell a truck, sell a Recorder with it. Why? Not only for the money in the sale, but more important still, to show your customer that you are interested in seeing him get the most out of his truck after he has bought it.

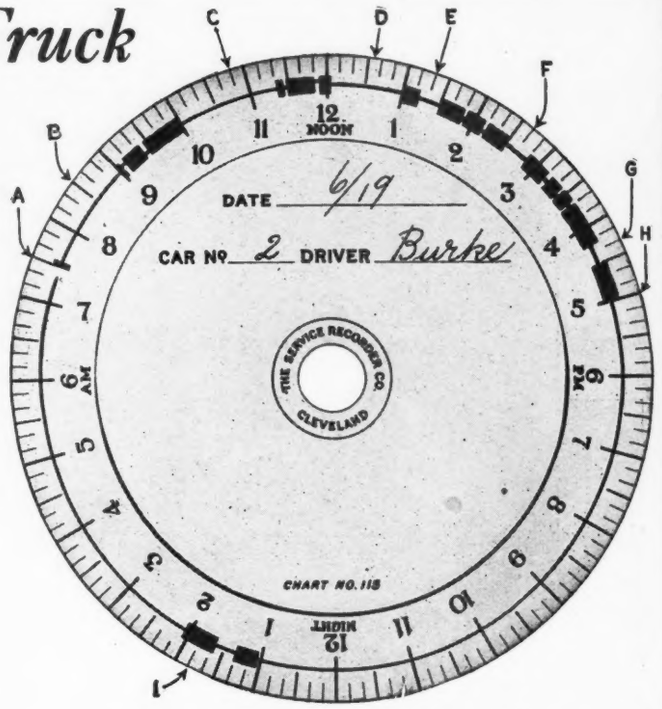
Selling Trucks

Another thing. Many dealers are making use of the Servis Recorder to get an interview which leads to the sale of a truck! Truck owners are hungry for this information. Be the one to bring it to them. Many trucks are sold "on time." What if the new customer should fail? He won't be nearly so likely to if he checks up his truck with a Servis Recorder.

Dealers Wanted

Wherever you are, write for our proposition today.

The Service Recorder Co., Cleveland, O.



(Daily Servis Recorder Chart (much reduced). Heavy mark shows when truck is in motion; narrow line shows truck is standing still.)

A—truck started at 7:30.
B—hour and 25 minutes to load.
C—hour and 20 minutes (at freight depot).
D—a lunch *hour*.
E—fifteen minutes (loading).
F—held up 20 minutes (drawbridge).
G—stopped 15 minutes (somewhere on return trip).
H—put up at garage at 5:00. (*No overtime*).
I—taken out during night.

EFFICIENCY-RELIABILITY-DURABILITY
GARY
SIMPLICITY-TRUCKS-ECONOMY

1, 2, 2½, 3½ and 5 ton sizes. And Gary Oil Field Special.

"Built to Quality and Not to Price"

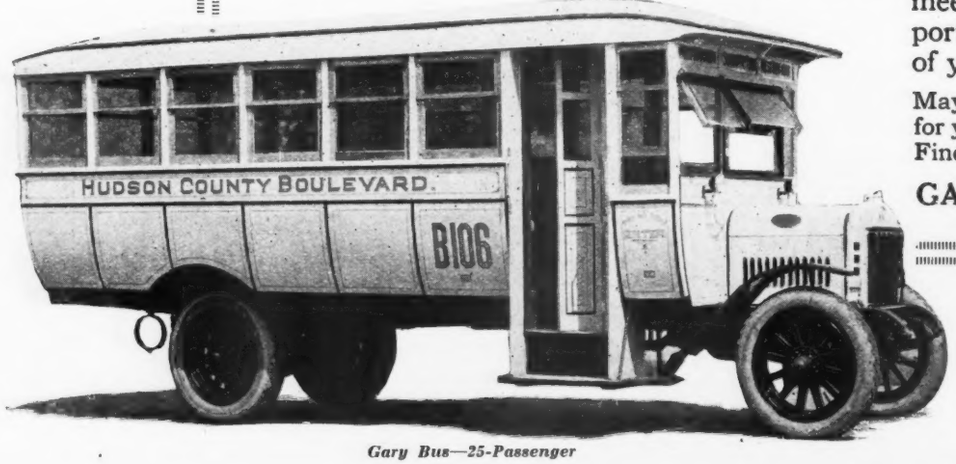
Quality Makes for Easy Sales at Gary Prices

Despite the fact that the quality of Gary Trucks is the very highest, Gary prices are *lower than the average price of over forty different makes of trucks.*

And bear in mind that the Gary line is *complete.* There is a Gary model that will exactly meet the individual transportation needs of each of your customers.

Maybe the Gary Franchise for your territory is still open. Find out. *Write.*

GARY MOTOR CORP.
GARY, INDIANA



Gary Bus—25-Passenger

The production capacity of our up-to-date plant at Gary, Indiana, is 200 trucks monthly.

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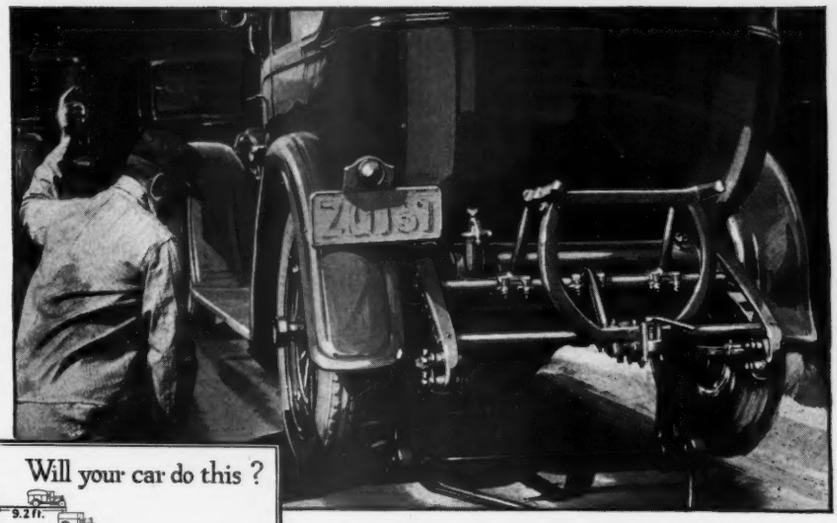
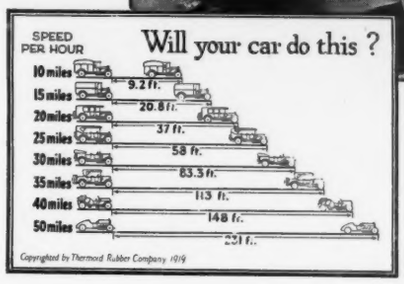


Famous Thermoid Standard Chart—shows distances in which car should stop if brakes are efficient. Brakes lined with Thermoid meet these standards.



Brake Bands equally spaced

but one wheel always stops first—

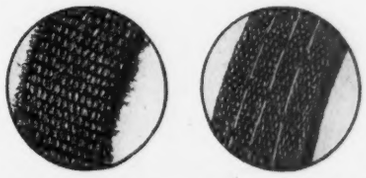
Jack up the rear—put an ordinary soft lining on one band, Thermoid Hydraulic Compressed Lining on the other. Space the adjustments equally, let 'er spin, and put on the brakes.

The wheel braked by Thermoid *stops first.*

Now adjust the ordinary brake lining closer, and repeat the test. Even after *several* adjustments Thermoid will still stop its wheel first.

Compression removes the "give"

Thermoid Brake Lining grips like this because all further "give" is compressed out under 2000 pounds hydraulic pressure! This makes Thermoid so dense, so compact, that it grips from the first day on. Your customers don't have to break it in!



Left: Steady wear soon squeezes out "ragged edge" on ordinary soft brake lining. This means poor wear and frequent adjustments.

Right: Thermoid Hydraulic Compressed Lining is too dense and compact to squeeze out. Wears down slowly, grips when worn wafer-thin. Needs fewer adjustments.

Why Thermoid is last to "squeeze out"

We take the "give" out of Thermoid in the factory—in its place we put *40% more material.* That's why Thermoid is last to show the "ragged edge" between drum and brake band.

Remember this: when you reline with Thermoid, you're giving your man not only absolute protection and longer wear, but a definite money-saving through fewer needed adjustments.

Get your share of this profitable relining business—write for full information about the sales helps furnished to all Thermoid dealers.

THERMOID RUBBER COMPANY

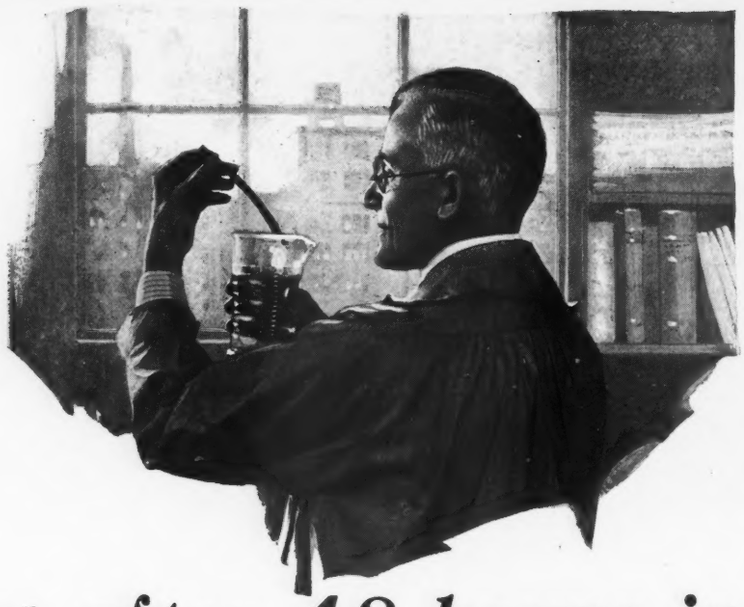
Factory and Main Offices, Trenton, N. J.

New York	Chicago	Los Angeles	Detroit
Cleveland	Kansas City	Seattle	Atlanta
Boston	London	Paris	Turin
	San Francisco		

Thermoid Brake Lining

Hydraulic Compressed

Makers of "Thermoid-Hardy Universal Joints" and "Thermoid Crolide Compound Tires"



Intact *after 48 hours in oil!*

A unique test which proved that ONE Ford Transmission Lining retains its compounds

Proper lubrication is impossible with most Ford transmission linings. The treated linings grip fairly well, but soon dissolve their compounds in the oil. Fouling of the power plant follows.

Then the engineers of the Thermoid Rubber Company invented *Rexoid.*

Its treating compound provided high and lasting friction. Then they vulcanized it—under tremendous pressure—into every fibre of the woven fabric.

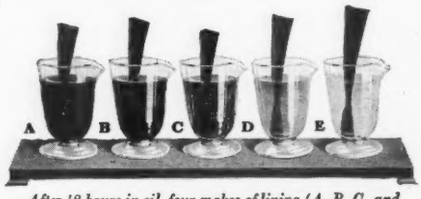
Exhaustive tests proved that here, at last, was one transmission lining whose compounds were *insoluble in oil.*

An astonishing difference in five leading makes

In the next column is shown a startling test of five different makes of treated lining. The varying shades of the oil in the beakers mark the extent to which each make dissolved its compounds in the short space of *six hours.* One remained absolutely clear—not only after six but after forty-eight hours of continuous soaking.

The lining it held was *Rexoid*—the new Ford transmission lining.

Only in Rexoid do your customers get this insoluble compound. It is practically vulcanized into every fibre of a high-grade woven fabric. Compound and fabric become one solid mass.



After 48 hours in oil, four makes of lining (A, B, C, and D) had discolored the oil, giving off tar and other harmful ingredients. The only lining that did not foul up the oil was E—Rexoid.

This hydraulic treatment gives Rexoid

1. More material to the square inch
2. A smoother surface and a longer life.

Tell your trade the facts about Rexoid. It's easy to sell, and because it fills a real need your customers are satisfied. This means continuous profits to you.

Leading jobbers carry Rexoid. If your jobber cannot supply you, send us his name.

THERMOID RUBBER COMPANY

Factory and Main Offices, Trenton, N. J.

New York	Chicago	Los Angeles	Detroit
Cleveland	Kansas City	Seattle	Atlanta
Boston	London	Paris	Turin
	San Francisco		

REXOID

Transmission Lining for Ford Cars

"They Haven't Anything on Us With These New Dietz Lamps"

MAKE a driver proud of his truck and he'll take better care of it.

He is fond of the things that "doll her up."

Equipping a truck with Dietz sightly "Ranger" Headlights, together with other first-class accessory equipment, is a practical preventive of the "don't care" driving that keeps trucks in the repair shop instead of on the road.

Dealers in accessories will make many sales of "Ranger" Headlights by impressing this truth upon fleet owners.

"Ranger" Headlights are also stronger lamps—built to last! Lighting power is unexcelled.

Let us send you full particulars and prices covering both "Ranger" Acetylene and "Sentinel" Electric Headlights.

R. E. DIETZ COMPANY
60 LAIGHT STREET, NEW YORK
Pioneer Makers of Vehicle Lamps. Founded 1840
JAMES BARNES, Sales Manager, Motor Truck Lamp Department, Carter Bldg., Rochester, N. Y.

"RANGER"
DIETZ NEW ACETYLENE HEADLIGHT FOR MOTOR TRUCKS

More work from drill press since using Oakite solution

THIS midwestern auto factory uses Oakite materials in connection with five different manufacturing operations.

On their high speed drill press, when they first tried an Oakite Cutting Compound to compare its work with the solution they were using, two things happened.

Chip congestion stopped, and drills no longer burned at the point. For the first time they were able to work the press at capacity.

One of the outstanding advantages of using Oakite Cutting and Grinding Compounds is the ability to run machines at highest possible speed. Their cooling effect, plus the perfect distribution of lubricant due to the emulsifying power of Oakite, results in less frequent grinding of tools and dressing of wheels. This means less frequent shut downs—more production hours per day per machine.

If you were to try out Oakite Cutting or Grinding Compound on your own work, there is a strong likelihood you would see a worth-while improvement. We will make such a test easy for you. Just write us you are interested.

There are 70 Oakite Service Men, Cleaning specialists, located at:

Allentown, Pa.; Baltimore, Boston, Bridgeport, *Brooklyn, Camden, Cedar Rapids, *Chicago, *Cincinnati, *Cleveland, *Dallas, Dayton, *Denver, *Des Moines, *Detroit, Erie, Evansville, Ind.; Grand Rapids, Greenville, S. C.; Harrisburg, Hartford, *Indianapolis, *Kansas City, Lansing, *Los Angeles, Louisville, *Milwaukee, *Minneapolis, *Montreal, Newark, New Haven, *New York, *Oakland, Philadelphia, Pittsburgh, Portland, Me.; Poughkeepsie, Providence, Reading, Rochester, Rockford, *Rock Island, *St. Louis, *San Francisco, Schenectady, *Seattle, Toledo, *Toronto, Utica, Waterloo, Williamsport, Pa.; Worcester.

***Stocks of Oakite materials are carried in these cities**

Oakley Chemical Co. *General Offices:* 38 Thames St. New York, N.Y.

OAKITE
Industrial Cleaning Materials

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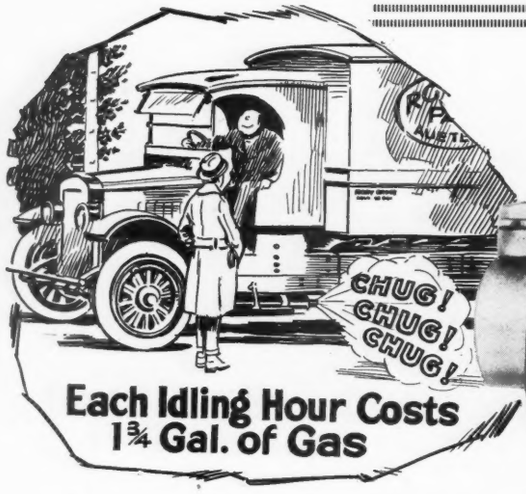
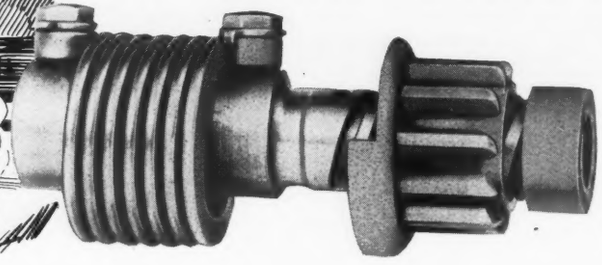


BENDIX DRIVE

for Electric Starters on Trucks



Automatic Engaging and Disengaging

BENDIX DRIVE

As long as truck drivers must crank their engines, they will let them "idle" while standing. Each idling hour costs 1¾ gallons of gas. An hour a day costs *over $100 a year.*

Numberless engines have been ruined because an oil line, pump or radiator has clogged while their drivers left them, idling. Incalculable damage to universal joints, jack shafts and gear sprockets has resulted from drivers coasting down grade and throwing in the clutch to start.

Drivers whose trucks are equipped with electric starters *don't do these things.* The saving is the truck owner's.

Bendix Automatic Drives for electric starters are absolutely automatic—certain in action—with fewer parts than any other drive. They require a minimum of care and attention.

An electric starter, equipped with the Bendix Drive, will save every truck owner money in the savings it will effect. Let us show you.

Eclipse Machine Company **Elmira, N. Y.**

Maximum Truck *Trade* Circulation Per Advertising Dollar

The bigger the motor truck *trade* circulation you buy per advertising dollar, the farther your advertising appropriation goes.

Because trade circulation means reaching truck and parts makers and truck dealers—quantity buyers and distributors for your product.

In the COMMERCIAL CAR JOURNAL you get the maximum *proved* trade circulation per advertising dollar—and more trade circulation than in all other publications in this field, combined.

THE COMMERCIAL CAR JOURNAL

CHILTON COMPANY
Chestnut and 56th Streets **Philadelphia**

46% OF THE OPERATING COST CONTROLLED WITH AN ODOMETER

Take the case of a 2-ton truck: more than 35% of your operating cost goes for gasoline, oil and tires. If you add the repair overhead these items make up 46% of your total operating cost!

Isn't your cost ***per mile*** for these variable items a factor worth watching—and ***reducing?***

Veeder
HUB ODOMETERS

record the mileage and indicate accurately the cost-per-mile for ***all*** expense items.

Your truck user's ***control*** over the cost-per-mile goes as far as the thoroughness of his cost-keeping and his interest in saving money.

REGULAR MODEL.....$20.00
FORD TRUCK MODEL.....$15.00

Informative circular on request

The Veeder Mfg. Co.
54 Sargeant Street Hartford, Conn.

Sales and Service Stations in

Atlanta, Ga.
Baltimore, Md.
Boston, Mass.
Buffalo, N. Y.
Chicago, Ill.
Cincinnati, Ohio
Cleveland, Ohio
Denver, Colo.
Detroit, Mich.
Indianapolis, Ind.
Kansas City, Mo.
Los Angeles, Cal.
Montreal, Quebec
New Orleans, La.
New York, N. Y.
Philadelphia, Pa.
Pittsburgh, Pa.
Rochester, N. Y.
St. Louis, Mo.
St. Paul, Minn.
San Francisco, Cal.
Syracuse, N. Y.
Tacoma, Wash.
Toronto, Ont.
Washington, D. C.
—and other cities

Lavine
STEERING GEARS

For Use on:
Passenger Cars
Motor Trucks
Motor Buses
Tractors

The Gear That Absorbs the Road Shocks

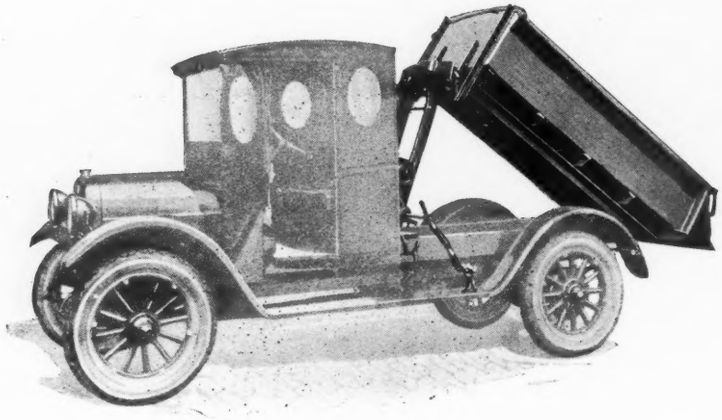
The Steering Gear of—

1. Proven design
2. Positive and easy adjustment
3. Pressure lubrication
4. Proper thread area
5. Evenly distributed bearing surfaces

Same gear can be used for both right and left hand drives.

In use 12 years. Improved processes of manufacture make it a better product every year.

Lavine Gear Co.
Milwaukee, Wis.



The Dumping Angle—

Galion bodies are designed to give a maximum angle for clean unloading. The double-acting tail-gate makes it easy to use for either dumping or shoveling.

The Galion Allsteel Body Co.

Galion, Ohio

DROP FORGINGS

Open Hearth or Alloy Steel Capacity, 2,000 Tons Per Month
Automobile, Truck, Tractor, General

SUGGESTIONS

For Information to Accompany Inquiries for Estimates:
Submit dimension sketch, blueprint or sample together with statement of analysis of steel, quantity and deliveries desired
State whether measurements are rough forged or finished dimensions and, in the latter case, state how much tolerance is allowed

When in Doubt Use DROP FORGINGS. They Are Positive

BACKED BY FORTY YEARS' EXPERIENCE

Heat-Treating and Complete Laboratory Equipment

Correspondence
To Insure Prompt Attention ***Don't*** Address Letters on Company Business to Individuals

Address All Communications to
Drop Forge Department

UNION SWITCH & SIGNAL COMPANY

PITTSBURGH DISTRICT **SWISSVALE, PA.**

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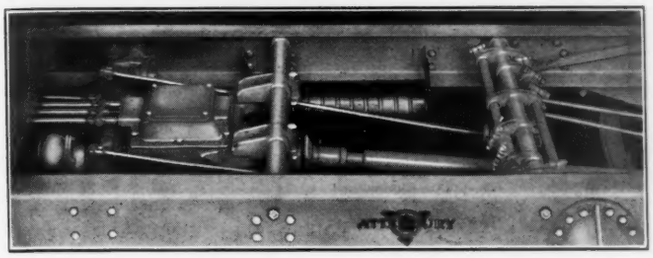


Read what the *Scientific American* for July says about the Atterbury bolted chassis design, and then ask us for some of the other reasons why you will be head and shoulders above competition when you sell Atterbury trucks.

Advantages of Bolted Chassis Parts

WHEN we remember that the frame work of the motor truck is really the foundation of the whole machine, it is surprising that so few machines show any real evidence of applied engineering thought and effort. Practically any repair man will verify this by pointing out that the average chassis coming into his hands for overhauling is as loose as the proverbial basket. In a large measure this is directly traceable to the use of rivets throughout the frame assembly, and their inability to withstand the constant racking and vibration of motor truck operation. As far as we know there are only one or two manufacturers who have given this phase of design the amount of attention it warrants. One of them, a Buffalo manufacturer and incidentally one of the pioneer motor truck manufacturers in this country, has been using a bolted frame with outstanding success for seven years.

In their method of fabrication all brackets, cross-members, supports and in fact everything attached to the frame side rails is held in place by bolts and heavy type lock-washers as shown

ATTERBURY MOTOR CAR CO.
Elmwood Ave. at Hertel, Buffalo, N. Y.

ATTERBURY

MOTOR TRUCKS OF MAXIMUM SERVICE

TWENTIETH ANNIVERSARY YEAR

GRAHAM BROTHERS
DEALERS

Get These Good Points

A Graham Brothers Truck equipped with an Ahlberg Dual Transmission has ***six speeds ahead and two reverse.*** This means maximum of power and touring car road speed.

We manufacture either under or overdrive, giving either a 37% gear reduction or a 37% increase in gear ratio.

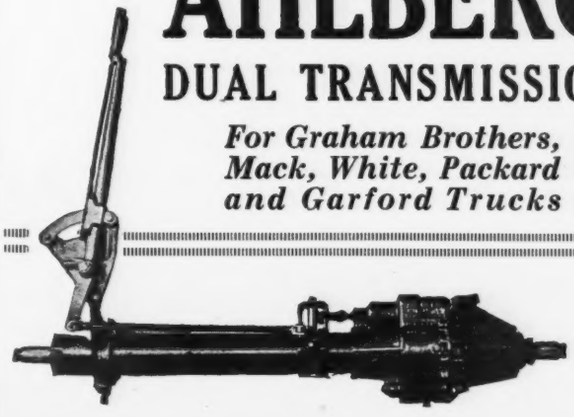
Adds only about 35 pounds to the weight of the truck; is noiseless, and readily installed.

Write for our proposition.

K. E. AHLBERG CO.
120 W. 22d St. Los Angeles, Cal.

AHLBERG
DUAL TRANSMISSION

For Graham Brothers, Mack, White, Packard and Garford Trucks



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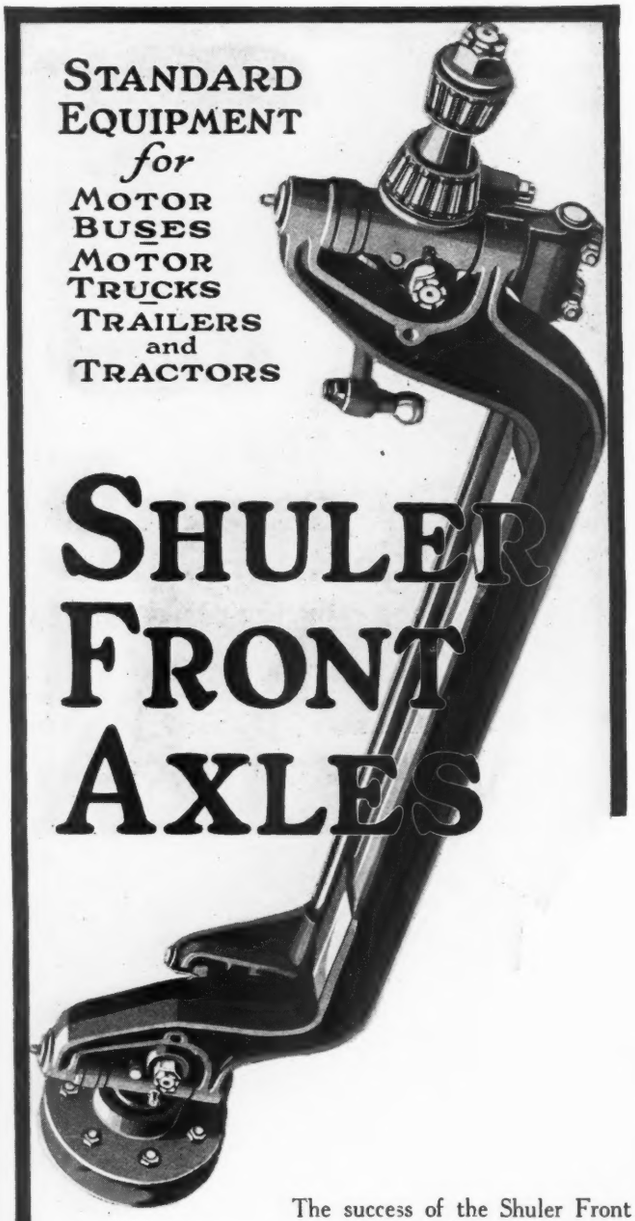
STANDARD EQUIPMENT *for* MOTOR BUSES MOTOR TRUCKS TRAILERS and TRACTORS



SHULER FRONT AXLES

The success of the Shuler Front Axle is the logical result of the fact that it has been built by an organization of experienced engineers and skilled mechanics who have concentrated all their energies on the perfection of this one major unit.

Manufacturers are realizing more and more the importance of the front axle. Failure of this unit is fatal. It must stand up under any emergency, and it must be so designed that it will give the highest degree of efficiency in service.

Complete information on request, together with full co-operation from our engineers

SHULER AXLE COMPANY, Incorporated
3003 Jones Street Louisville, Kentucky, U. S. A.

Shuler Front Axles

STANDARDIZED FENDERS 3M

Profitable to You—

Whether Truck Maker, Dealer or User

When you order "3M" Standardized Fenders, you get *standard* quality and service—just as you do when you specify any other standard truck part.

Used on your speed trucks and buses, "3M" Standardized Fenders help cut production costs—reduce installation expense.

The dealer who services "3M" Standardized Fenders can provide a quick, positive fit—at a good profit.

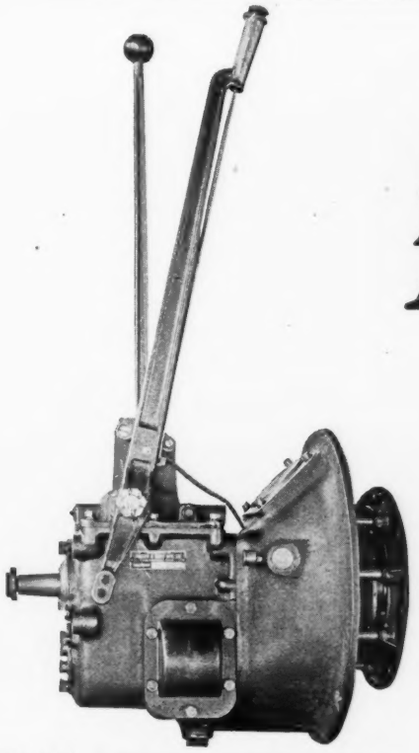
And the truck user gets high-grade fenders at no greater cost than for ordinary makes.

Why not get all the profitable details—now?

Cut 15-C
7509
Standard Full Crown

Cut 15C
1035
Standard Half Crown
Comes in Rights and Lefts

Motors Metal Mfg. Co.
DETROIT, MICH.



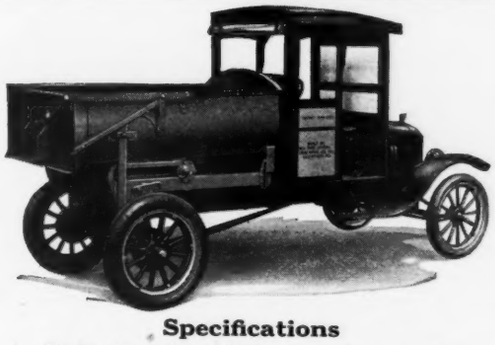
No plain bearings—"oversize" annular ball bearings throughout
Extra large chrome nickel shafts
Capacities 3/4 to 7 ton
Unit and amidship types

FULLER Transmissions

There is a double advantage to you in using Fuller Transmissions in your truck assembly. First, you secure an absolutely reliable standard transmission unit worthy of the high ideals of quality you have set for your truck. Second, you give your dealers the sales advantage of the Fuller name in your specifications. A name that with truck buyers stands for a consistent adherence to the ideal of "Quality First" through twenty years of transmission manufacture.

Before selecting a transmission unit—it will be worth your while to communicate with our engineering department.

Fuller & Sons Mfg. Co., Kalamazoo, Mich.
Detroit San Francisco London



THERE'S A BIG MARKET
FOR THIS
ALL SERVICE TRUCK BODY
FOR FORD ONE TON CHASSIS

This body is designed for road contractors, coal, sand, and gravel dealers, also for hauling brick, lumber, cement and express, and is very desirable where there is need for combined open and closed-end truck bodies. It is also indispensable for farm use.

It is so designed that commodities such as bagged coal, sacked cement, kegs, boxes, etc., can be moved easily and rapidly.

Special attention is directed to the fact that the load is not raised but moved horizontally; therefore, only minimum effort is required.

Specifications

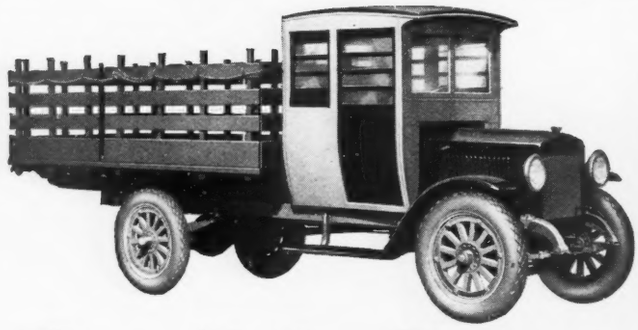
1. Body all steel and built to combine hard service with lasting qualities.
2. Nominal capacity one ton. Extreme dumping angle about 45°.
3. Cubic capacity (without surcharge) 36½ cu. ft. Dimensions 72″x44″x20″.
4. Body No. 10 steel plate reinforced with 1½″x1½″ x$\frac{3}{16}$″ angle. Welded and riveted construction.
5. Safe overload 100%.
6. Fitted in 15 minutes by placing 6 bolts supplied with body; no drilling required on chassis.

Consult any Ford dealer or write us direct for additional information and full specifications

Manufactured by **New York Central Iron Works Co., Inc.**
HAGERSTOWN, MARYLAND

NYC HAGERSTOWN, MD.

CROOKE ALL SERVICE TRUCK BODY



One of the Fastest Sellers on the Market

Dealers who have kept themselves informed as to the progress trucks are making are quick to realize the possibilities of the new 1 ton Duplex.

Everything about this 1 tonner has immense selling value. There's the motor. It possesses unusual power. Very economical. There's the speed—just the speed for this type of truck.

There's the frame that is unusually heavy—and springs that ordinarily go on 2 ton jobs.

And when it comes to universal joints, you find the ones used on this truck equal in size to those that go on 3 ton jobs!

And these are but a few of the high lights. This Duplex 1 ton truck is literally covered with selling features.

When it comes to well known units, here are a few:

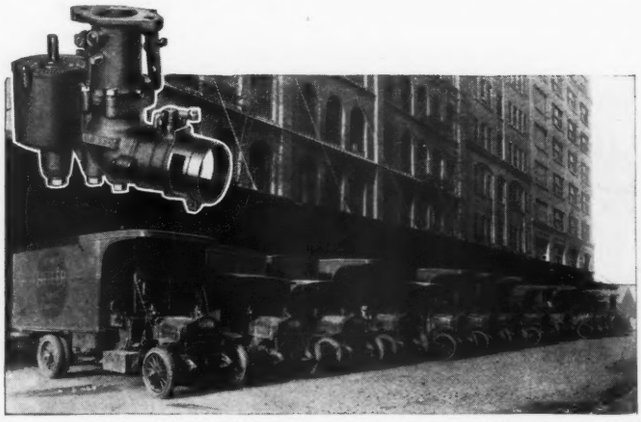
Buda motor	Modine-Spirex radiator
Brown-Lipe clutch and transmission	132-inch wheelbase
Timken axles	33 x 5 Pneumatic cord truck tires

Prices right too. Good sized production makes this possible. Dealers all over the country are creating new sales records with this new 1 ton job.

Write or better yet, wire us today. It will pay you to get all the facts.

Duplex Truck Company
Lansing Michigan

DUPLEX BUILT FOR BUSINESS



ABSOLUTE FUEL CONTROL
BRINGS ECONOMY to James Butler

Rigidly kept records of fuel consumption and accurate tests of performance proved to James Butler, Wholesale Grocer of New York, that Zenith alone can give him uniformity in economy and dependability. Hence all his fleet are now Zenith-equipped.

His experience is typical of that of thousands of truck owners who have found in Zenith carburetors the solution of this phase of their problem of improving deliveries and lowering costs.

Over 100 truck manufacturers are using Zenith Carburetors as regular equipment; owners of other trucks can obtain these advantages through our chain of distributors and dealers, over 800 of which serve the trade and the motoring public from coast to coast.

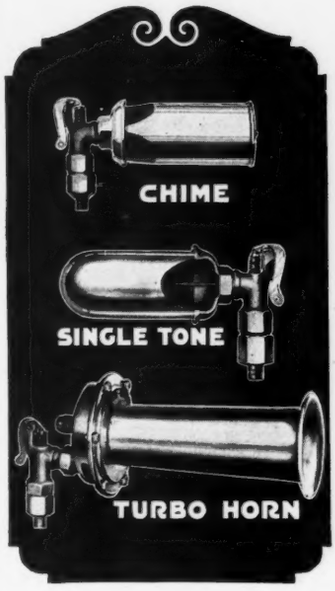
ZENITH-DETROIT CORPORATION

Manufacturer of
ZENITH CARBURETORS
DETROIT

Branches: **New York Chicago Cleveland**

ZENITH CARBURETOR

World's Largest Fleet Owner Uses Buell Warning Signals



The United States postal authorities equip the trucks delivering United States mail with Buell Warning Signals.

Here speed and safety are absolute essentials. And Buell Warning Signals solve the problem. Watch the mail trucks in your own city make time with safety through the heaviest traffic. And notice how the commanding sound of the Buell opens the way for them every time.

If your trucks are not equipped with Buell Signals they are not delivering the full service of which they are capable. Make your trucks and their income to you 100% efficient.

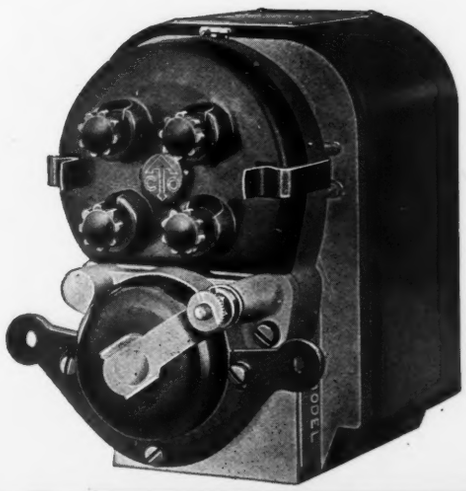
Equip them with Buells.

If your dealer cannot supply you write us direct.

BUELL SIGNALS
WARN EVERY TIME
BUELL MANUFACTURING COMPANY
Cottage Grove Avenue at 30th Street, Chicago, Ill.

The Constant Service Magneto

TEAGLE



There is good reason why truck owners who know operating costs characterize Teagle as "The Constant Service Magneto."

It is simple in construction, with as few parts as possible to obtain positive results.

There are no trouble-making moving wires, slip rings nor insulating pads.

Each high-grade part is rigorously tested and gauged — so that the magneto *must* function properly—and is so guaranteed.

TRUCK MAKERS: Equip your new models with Teagle, "The Constant Service Magneto"—and thus furnish your dealers with additional effective selling ammunition.

THE TEAGLE COMPANY
CLEVELAND OHIO

"The Simplest Magneto of Them All"

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

Supply This Insistent Jack Demand

Model No. 25-A 10-ton capacity. Other types from 1 ton to 10-ton capacity.

Examine the powerful Rees Jack—and instantly know the reason for the insistent demand for this easy-working time and temper-saver.

Note that it has a patented *double worm gear drive*—which eliminates end thrust and unequal strains. No trouble-making springs or ratchets.

Place it under the axle of a heavily loaded truck. Observe how quickly it lifts to any wanted height—with little effort—and without danger of slipping or dropping.

Supply the insistent demand for this trouble-free jack—as many other live dealers are profitably doing.

Write for details of our comprehensive sales plan.

REES MANUFACTURING CO.
Pittsburgh, Pa.

REES
DOUBLE WORM GEAR DRIVE
Reg. U.S. Pat. Off.
JACK

"TOUR-A-BUS" BODIES

Properly Balanced, Strong, Noiseless, for Rapid Interurban Service

Five Sizes—11 to 24 Passengers
Made to Fit Standard Chasses

Weatherproof Body Corporation
Plant A. Corunna, Mich.
Manufacturers of
Bus Bodies, Heavy Duty Cabs, Commercial Bodies, Ford "Weatherproof" Closed Tops

Universal Joints That Give Real Service

Electrically Heat Treated Nickel Steel Tube Makes

A lighter weight shaft
A greater strength shaft
A non-whipping shaft

Flexible Fabric Disc Joint Means

Cushioned power impulses
Longer life to gears and bearings
Minimum replacement costs
No need of service attention

SNEAD & CO. Jersey City, N. J.

SNEAD
CUSHION DRIVE

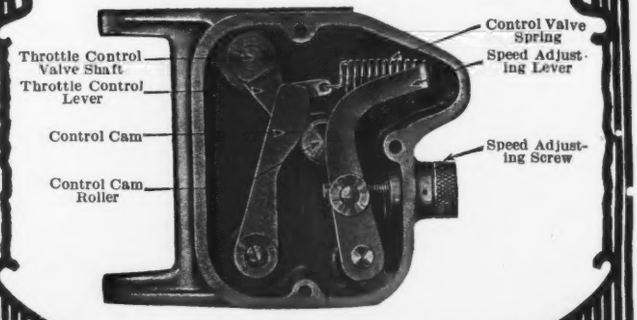
65,000 in Actual Use Prove Results

TODAY more than 65,000 Handy Governors are in use and their number is constantly increasing.

For Handy Governors are not only the simplest and most efficient but also the only governor that requires absolutely no attention—not even oiling—after installation.

Make sure that the governor for your truck is trouble proof by specifying that it be a Handy.

HANDY GOVERNOR CORPORATION
3021 Wabash Ave. Detroit, Mich.



HANDY
GOVERNOR

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Pierce-Arrow dealers sell truck *satisfaction* —that's why the franchise is so desirable. Write us.

CHASSIS SIZES

2-Ton 4-Ton 6-Ton
3-Ton 5-Ton 7½-Ton

3-Ton 5-Ton 7½-Ton Tractors

The Pierce-Arrow Motor Car Co.
Buffalo, N. Y.

Pierce Arrow

HEAVY DUTY
MOTOR TRUCKS

PIERCE-ARROW

Heavy Duty Cushions

Reports from users of Firestone Heavy Duty Cushions show service delivered far in excess of any claims made for these tires.

Most Miles per Dollar

Firestone

TRUCK TIRES

A *Selling* Demonstration of the

ARCHER

STEEL DUMP BODY AND HAND HOIST

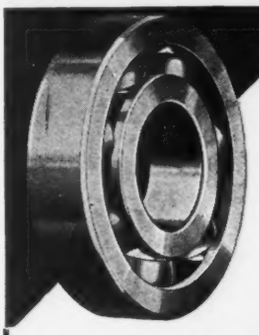
Show your customer how, with this easy-to-operate outfit, one man readily dumps the entire load. *Such a demonstration will sell the buyer,* because he will see with his own eyes the Archer's superior time and labor-saving features.

For road builders, coal concerns, grain merchants—for every business that needs efficient dumping equipment.

Write for special dealer proposition.

Our Standard Dump Outfits Fit All Makes of Trucks From 1 Ton to 5 Ton Capacity

ARCHER IRON WORKS
2450 West 34th Place, Chicago



Factor Number 3—

Testing Raw Material

To uphold the ideal of perfection in ball bearing performance, STROM laboratories have established very definitely the chemical and physical requirements for STROM bearing steel. *And not a bar of steel may go into process unless it comes up to* STROM *specifications.* The most advanced methods for determining and verifying correct analysis, structure, heat treatment, etc —all form a part of the routine check which begins with the receipt of the raw material and ends only with the finished product. Just another reason why STROM guaranteed ball bearings, for new or replacement work, leave Power unshackled—

"Wherever a Shaft Turns"

U. S. BALL BEARING MFG. CO.

(2431)

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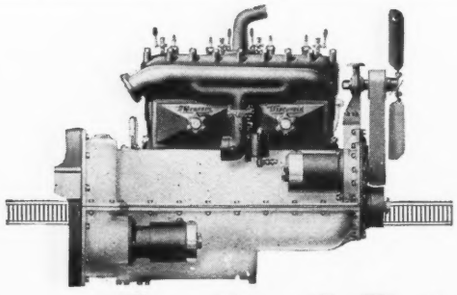

Seven Cardinal Points of WISCONSIN Supremacy

1. *Performance*
2. *Economy*
3. *Light Weight*
4. *Service*
5. *Production*
6. *Complete Line*
7. *Standardized Construction*

WISCONSIN MOTOR MFG. CO.
MILWAUKEE WISCONSIN

Wisconsin
CONSISTENT

"BETTER BUILT 'BUS BODIES"

FIRST-QUALITY materials and workmanship are built into our sturdy, distinctive Bus Bodies. Quantity production of standardized units enables us to offer them at extremely moderate prices. You dealers will find these high-class, low-priced bodies powerful aids in closing bus sales.

Complete Catalog and Prices Gladly Sent on Request

BUS BODY CORPORATION
Exclusive Bus Body Builders
Evansville Indiana, U. S. A.

Rowe THE PIONEER TRUCKS

Complete Line Worm-Driven Trucks
¾ to 6 Ton Capacity

ROWE COMMERCIAL BODIES
BODIES OF UNUSUAL CONSTRUCTION

Valuable Territory Open to Dealers
Write for Catalogue

ROWE MOTOR MANUFACTURING CO.
LANCASTER, PA.

ROCK TYPE H HOIST

A highly efficient, well designed and carefully built hand hoist for dump bodies up to 3½ ton capacity.

Cut gears are used on the winch.

Can be mounted on any width of chassis without change.

Occupies but 9″ of space.

No holes required in frame for mounting hoist.

Dumping angle from 35° to 45°.

Price, With Body Hinge, $85.00

ROCK MANUFACTURING CO., Waterloo, N. Y.

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Cutting Costs

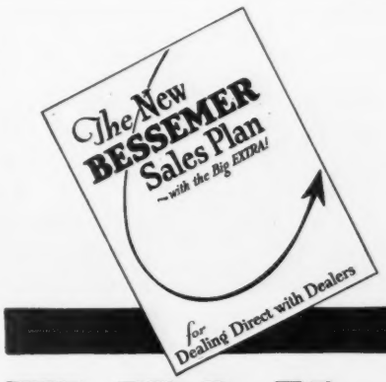
TO enable the truck owner to keep maintenance costs at a minimum, the Warner Odometer, Model 76, is indispensable. Records mileage for the season and trip. Makes it possible for the driver to determine the exact number of miles obtained from a set of tires, gallon of gas or quart of oil. He can then select the most economical brands of fuel and tires.

The Warner Odometer is sturdily built. Heavy steel case—3½ inches long by 1¾ inches wide—finished in black enamel. 100,000 mile season odometer; 100 mile trip register, that quickly re-sets to any mile or tenth of a mile. Specify make, model, tire size and rear axle ratio of truck, when ordering.

Warner Odometer, Model 76, Complete, $18.00

Stewart-Warner Speedometer Corporation
Chicago, Illinois, U. S. A.

Stewart
CUSTOMBILT ACCESSORIES
Used on 8 Million Cars



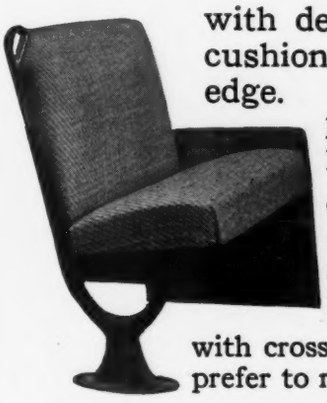
We Help You SELL

Here's a plan for selling Bessemer Trucks that really "rings the bell." It's the squarest deal for dealers you ever saw. You'll say so, too, when you see it. Where shall we send your copy?

Bessemer Motor Truck Company
Motor Truck Division
Bessemer-American Motors Corporation
PHILADELPHIA, PA.
Eleven Successful Years Building Fine Trucks

The Bessemer Tandem Duplex Drive Transmits Power with 97% Efficiency
BESSEMER MOTOR TRUCKS
The Truck that Made Good in MUD

BUS SEATS



with deep, comfortable cushions with spring edge.

Bronze corner grip-handle for standees.

Offset back, giving additional aisle room.

Equip your buses with cross-seats. Passengers prefer to ride facing forward.

Write for Cuts and Prices of Seats in Rattan Genuine or Imitation Leather
Also Prices on Rattan Car Seat Webbing

Heywood-Wakefield Company
Factory: Wakefield, Mass.

SALES OFFICES:

Heywood-Wakefield Co. 516 West 34th St. New York
E. F. Boyle Monadnock Bldg., San Francisco, Cal.
Heywood-Wakefield Co. 1415 Michigan Ave. Chicago, Ill.
F. N. Grigg 630 Louisiana Ave. Washington, D. C.
Railway and Power Engineering Corp. Toronto and Montreal
G. F. Cotter Supply Co. Houston, Texas

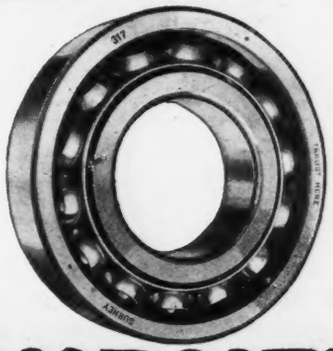
Gurney Ball Bearings Are Better

Their Greater Load Capacity (for their size) than other bearings makes Gurneys best for replacement work.

The new pressed steel separator, recently adopted after years of trial, adds the final touch that places Gurney Bearings in the foremost position.

Let our Engineers assist you

GURNEY BALL BEARING CO.
Jamestown N. Y.



GURNEY
BALL BEARINGS
(18211)

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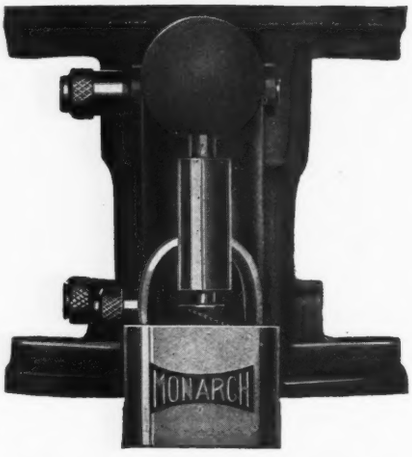
THE MODEL G



THE PIONEER
Gas Velocity Governor

175,000 in Use All Over the World

MONARCH GOVERNOR CO.
DETROIT, MICH.

Why Not Go After the BEST Business?

The dealer who sells the Day-Elder is prepared to go after the most substantial class of prospects in any territory—the kind that is in the market for a first-class motor truck and nothing less. And he can go after that class of business with the fullest confidence that a better truck than his is not to be had at anything like his price.

We can show you that there is money in that kind of business. If you are open to conviction, ask us to show you what the Day-Elder franchise has done for other dealers, *who were also open to conviction.*

DAY-ELDER MOTORS CORPORATION
NEWARK NEW JERSEY

DAY-ELDER
WORM-DRIVE MOTOR TRUCKS

1867 1923

A 36x6 Dual S. A. E. METAL FELLOE TRUCK WHEEL ready for hub and tires.

Weight 160 Lbs.

How does this compare with the weight of wheels you are now using as standard on your trucks?

Further information gladly furnished upon request.

Hoopes, Bro. & Darlington, Inc.
WEST CHESTER, PA.

TRUCK SPRINGS
and

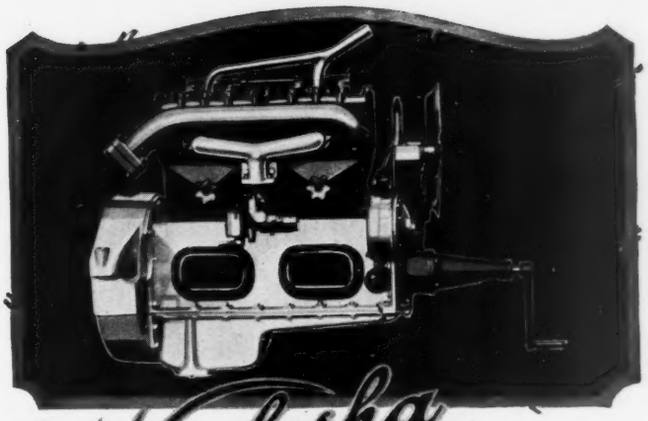
CHROME NICKEL
TRUCK AXLES

If your jobber does not handle Butler lines, write us and some other jobber will give you service.

Also nuts, keys and key stock, and

GILLIAM BEARINGS

BUTLER AUTOMOTIVE STEEL CO.
101 M Street, Easton, Pa.



Waukesha
TRADE MARK
BUS and TRUCK MOTORS

The higher, surer performance standards of the new Waukesha Bus and Truck Motor are quickly increasing the universal demand for buses and trucks.

Waukesha offers exceptional features, and its performance more than proves their importance. Its distinguishing feature is its unprecedented economy of operation—a capability that compels immediate attention and uninterrupted satisfaction.

The fullest advantages of Waukesha are available for increasing the sales of your product. Write for complete information.

The WAUKESHA MOTOR COMPANY, Waukesha, Wisconsin

WATCH
This Space
for
a New Type
ALL-WEATHER
CAB
A Salable and Profitable
Cab to Recommend

Cabs for Motor Trucks

SHEET STEEL PRODUCTS COMPANY
MICHIGAN CITY, INDIANA

BUSH
RADIATORS

BUILT TO ENDURE
FOR
TRUCKS - BUSES

BUSH MANUFACTURING CO.
HARTFORD, CONN.

ANNOUNCING NEW MODELS

MASTER TRUCKS
A COMPLETE LINE
SPEED MASTER—¾ to 1¼ Ton
Highest Achievement for Fast Transportation
HEAVY DUTY MODELS—1½ to 6 Ton

MASTER TRUCKS

Every Master Truck built of highest-grade recognized standard units, balanced oversize throughout. New models are the result of eighteen years' experience in successful motor-truck building.

Write for Specifications and Liberal Proposition to Live Dealers. Valuable Territory Still Available

MASTER MOTORS CORPORATION
CHICAGO, U. S. A.

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

Rely on York Sheet Metal Parts

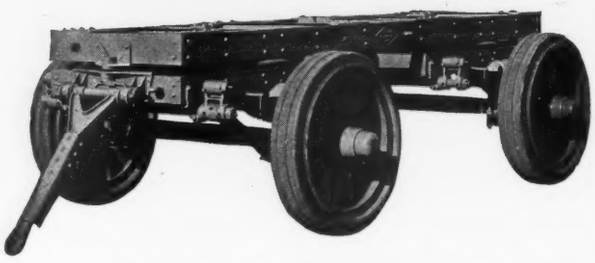
In closing the sale of your truck, the Sheet Metal Parts play a surprisingly large part —when they are York-made.

Not only are York Sheet Metal Parts rugged in construction and reasonably priced—they are uncommonly handsome in appearance. And that certainly helps make truck sales.

Do you need Fenders, Tanks, Hoods, Radiator Shields, Tool Boxes or Special Stampings? Ask us to quote you—this doesn't obligate you in the least.

York Corrugating Co.
York, Pa.

FRUEHAUF TRAILERS



Repeat Sales—for Big Profits

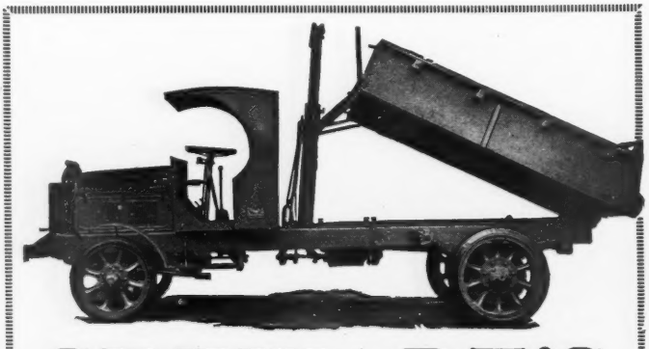
A sale of one Fruehauf Trailer is usually followed by a repeat order—which is often a fleet sale.

That of course is due to Fruehauf superior design, exclusive features of construction—and immediate sharp lowering of haulage costs.

Fruehauf Trailer Company is one of the largest and oldest trailer concerns in the United States. It has come thru the trying period of the last two years in a financially sound condition. It is growing steadily—and Fruehauf dealers are growing with it.

Write for the Fruehauf list of "Saving-hauling-costs Fleets," the road-sign to opportunity for the dealer with vision and aggressive sales punch.

FRUEHAUF TRAILER COMPANY
10921 Harper Ave. Detroit, Mich.



STEWART'S STEEL DUMP BODIES

Built to withstand hard usage. Bodies made to give your truck additional service.

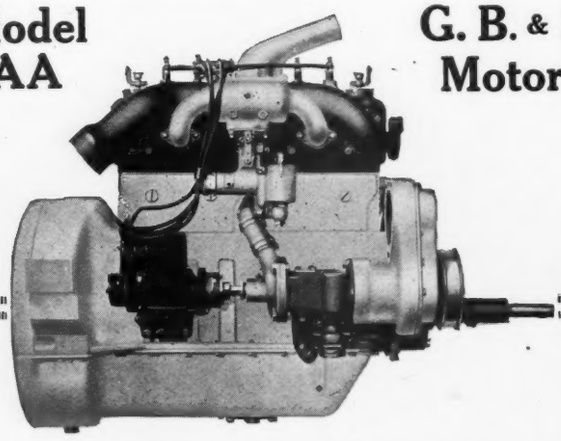
Standard and Special Steel Bodies. Let us quote on your requirements.

THE STEWART IRON WORKS CO.
COVINGTON, KENTUCKY

Manufacturers of

STEEL BODIES CABS BUMPERS DASHES RADIATOR GUARDS

Model AA G. B. & S. Motor



Priced Low for Quick Sale

This Model AA G. B. & S. replaces Continental Motor N-3¾" x 5"—a size very much in demand.

Without any change of fitting dimensions, truck manufacturers and dealers can install this famous quality G. B. & S. engine on any truck that accommodates the Continental model.

Has aluminum base, high class workmanship throughout. Built to withstand severest truck service.

A number of Model S G. B. & S. Motors also available at exceptionally reasonable prices.

Wire Your Requirements

Golden, Belknap & Swartz Co., Detroit, Mich.

G. B. & S. MOTORS

BIND YOUR CATALOG *into the* CHILTON AUTOMOBILE DIRECTORY

where it can't be lost or mislaid

consulted daily by thousands of buyers

80,000 copies of the CHILTON AUTOMOBILE DIRECTORY are sent annually to the buyers in the automotive industry.

These men consult it constantly for purchasing information. By binding your catalog into this universal catalog of the business you can make certain that it will be available to these buyers when they want it. There is no such assurance that your catalog, sent to these buyers separately, will be on hand when they need it.

For this and other reasons, many manufacturers are condensing their catalogs and placing them in the one book that stays on the desks of buyers throughout the year.

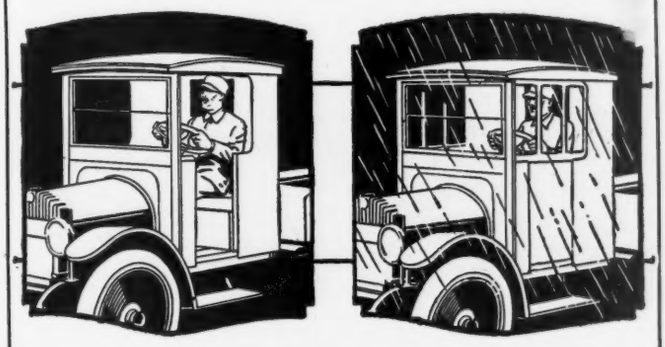
Place your catalog in the Buying Guide of the Industry, where it will be seen by buyers when they are in the market for your product. It costs *less* to do this than to send your catalog out by itself.

CHILTON AUTOMOBILE DIRECTORY

Chestnut and 56th Streets **PHILADELPHIA, PA.**

Many manufacturers who have catalog information in the CHILTON AUTOMOBILE DIRECTORY display the CHILTON Symbol in all of their advertising to direct possible buyers to this purchasing data. The meaning of the CHILTON Symbol is recognized by buyers because the CHILTON COMPANY has expended thousands of dollars to tell the trade what it means when it appears in a manufacturer's advertising. Any company that has a page or more catalog in the CHILTON AUTOMOBILE DIRECTORY is entitled to display this Symbol in its other advertising.

the — purchasing guide of the automotive industry



use HIGHLAND cabs

MODEL D

The Windows

THEY ARE INDEPENDENT OF THE DOORS
THEY SLIDE, THEY FOLD AS THEY OPEN

The doors are arm high and roll into pockets beside the driver's seat, where they automatically lock.

THE HIGHLAND BODY MFG. CO.
403 Township Avenue Cincinnati, Ohio

Unfailing—

THAT vital point in the motor truck—the differential—must never fail. This is why so many designers of the best trucks *first of all* demand the Brown-Lipe-Chapin differential.

MANUFACTURED AT
SYRACUSE, N. Y.

BROWN-LIPE-CHAPIN
DIFFERENTIALS—BEVEL DRIVE GEARS

Adds Years to the Life of

Your Light Delivery Truck Assembly

Only in the Columbia Single Reduction Bevel Gear Axle will you find those features of construction that will add years to the life of your light delivery, high-speed truck assembly.

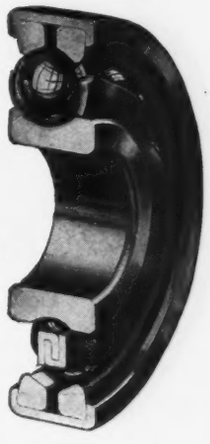
The famous Columbia one-piece housing—pressed from a single piece of steel, and welded once—adds 50% greater torsional strength, ***alone.***

Let us tell you the Columbia story in full. It will pay interested truck manufacturers to write for it to

The Columbia Axle Co. Cleveland, Ohio

COLUMBIA SINGLE REDUCTION AXLES

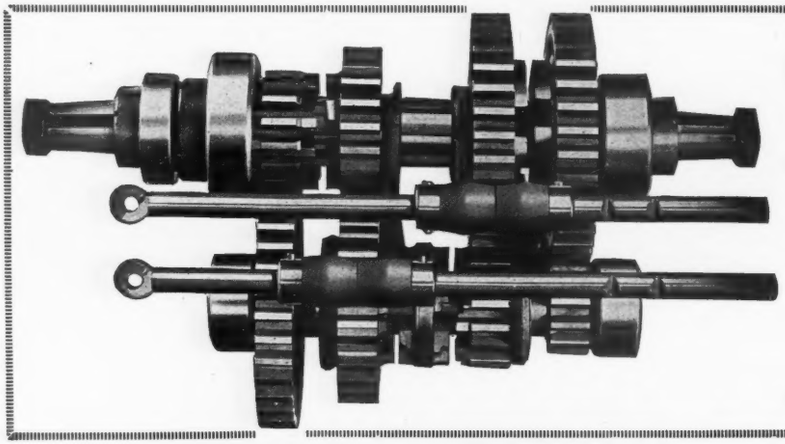
Schatz
"UNIVERSAL"
Registered *Annular* U.S. Pat. Off.
BALL BEARING



For combined radial and thrust loads, where precision and durability are essential, the correct three-area contact design gives 300-400% greater thrust capacity.

Greater Precision Less Friction Longer Life

The Federal Bearings Co.
Incorporated
Poughkeepsie, N. Y.



COTTA GEAR CO.

INDIVIDUAL CLUTCH TRANSMISSIONS

FOR

3½, 5 and 7 Ton Trucks

Notice the short, compact and husky construction.

Long bearings in the loose gears.

COTTA GEAR CO., Rockford, Ill.

Peerless Hoist, Showing Body Hitch Worm and Gear, Machine Cut

The Only Logical Choice for Dealers

There is every reason why the Peerless is the logical hoist for you to sell. The discount is so liberal that your time is well paid for and a handsome profit is earned on every sale. The price appeals to your customers, as it is from one-third to one-half lower than the cost of other hoists.

But profit and price would make little appeal if you did not conscientiously believe that the

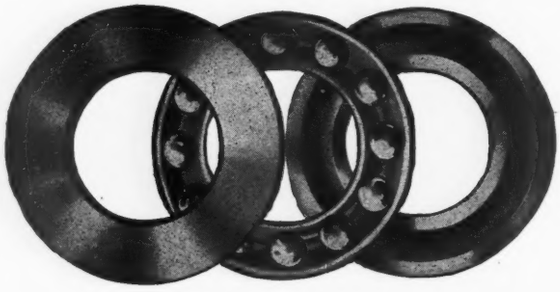
Peerless Hand Hoist

was superior in mechanical perfection and operation to any other lifting apparatus made. Rest content! It is *the only* efficient hoist that can be attached to either steel or wood bodies. It is *the only* efficient hand hoist that sells at a moderate price. These are pretty strong reasons why you should consider its sales possibilities. An operator can hoist from one to four tons in from one to four minutes. What more could be required on speed?

You are getting calls for hoists and are often undecided as to *which* hoist to recommend. We'll tell you *why* the Peerless fills the bill every time. Will you let us?

Alsteel Bodies Guaranteed to Take Care of 100% Overload Under Rough Usage

The Auglaize Hoist and Body Company
New Bremen, Ohio



The Bearings Company of America

Manufacturers of STAR Ball Retainers for Thrust, Magneto and Cup and Cone types of Bearings. Complete Thrust Ball Bearings, Angular Contact Thrust Bearings and Angular Contact Radial Bearings (made to your blueprints and requirements).

Detroit Office:
1012 Ford Bldg.

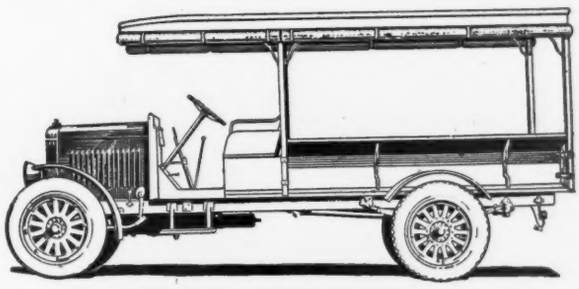
The Bearings Company of America
Lancaster, Penna.

PRESSED STEEL FRAMES

The largest and best equipped frame plant in the world

A-O-SMITH CORPORATION

-MILWAUKEE-



KISSEL'S TON EXPRESS

THE Ton Express—built for the retailer, merchant, wholesaler, farmer—is a regular One-Ton Kissel Truck in which strength and durability are combined to make it the best value on the market, irrespective of price.

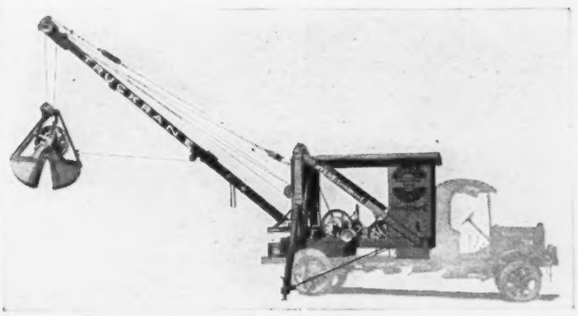
$1585
Chassis—Standard Equipped

$1985
For chassis and body completely equipped with worm-drive rear axle, electric lighting and starter, cord tires, express body and top—completely painted. Prices F.O.B. Hartford, Wisconsin.

KISSEL Motor Trucks 5 Sizes

The complete line of Kissel Trucks creates a sales opportunity that makes the Kissel Franchise in your territory doubly valuable. Also Special Road Builders' Truck, Hoppers, Measuring Boxes, Turntable, etc. Send for franchise details.

The Kissel Motor Car Co.
Hartford Wisconsin
Originators of the ALL-YEAR Cab for Trucks



TrucKranE

You are paying for *not* having this piece of equipment many times over, if you have a lot of material handling to do. It's the greatest time and labor saver you can imagine, and the sooner you get it the sooner it will start paying you dividends.

TrucKrane is a sturdy Byers Crane, fast and capable, furnished ready for mounting on a motor truck chassis. Big in capacity, small in cost; can be moved as readily as the truck on which it is mounted. Write for new Bulletin.

The Byers Machine Company
155 Sycamore St. Ravenna, Ohio
Sales Agencies in 25 Leading Cities

COLUMBIAN

Partition Mounted
3 Point Supported

TRUCK TANKS

Exclusive and Extraordinary Features—Partition Mounted, Lowest Mounting, Less Deadweight. Three-Point Supported, No Twisting Strains, Less Upkeep Expense. Jointless Pipe Lines with Funnel Outlets. Welded-on Bucket Boxes. Removable and Adjustable Side Carrying Racks, Tank, Mounting, Pipe Lines and Bucket Box Welded into a Monometallic Unit. Correct Distribution of Load on Rear Axle. The Triumphant Climax to Truck Tank Construction.

COLUMBIAN
Monometallic
DUMP BEDS

Longitudinal sills formed from side and bottom members. All members electrically welded into monometallic unit. No rivets in entire assembly. Stronger, more rigid, longer service. Five models. Tail gate hinged top and bottom—double acting.

COLUMBIAN
Lightning Hoist

A simple device built upon sound engineering principles, giving power that enables a man to dump a five-ton load with ease and without power expense. Narrow and compact in construction. Mounts in 11 inch space.

THE BIG 3
of the
Truck Equipment Field

A letter, a telegram or a ring on the telephone will bring full data and way down prices on any one or all three.

COLUMBIAN STEEL TANK CO.
Tanks for the World Established in 1894
1405-1625 West 12th St. Kansas City, Mo.

TRANSMISSIONS
Unit Power
and
Main Frame

CLUTCHES
Multiple Disc
and
Multiple Lever, Single Plate

CONTROLS
A Style and Capacity
for
Every Requirement

BROWN-LIPE GEAR CO.

SYRACUSE, N. Y.

San Francisco Chicago Detroit
New York London, Eng.

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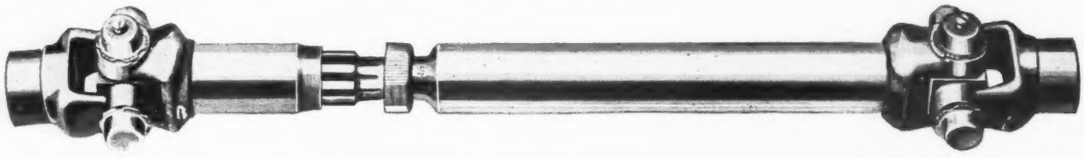


THE SPLINE IS LARGER WITH MORE BEARING THAN ON OTHER SHAFTS FOR THE SAME JOB

Blood-Brothers Machine Company

ALLEGAN MICHIGAN

Loads 1500 ft. of Logs in 20 Minutes

Operated by one man, an AMOS LOG LOADER will load 1500 feet of logs on the chassis you sell.

Under favorable conditions, the Loader will load and securely bind the logs within 20 minutes.

DEALERS:
For Literature and Prices, Write

Amos Loader Company

Edinburg Indiana

RAIN OR SHINE TRUCK CABS

We unreservedly guarantee that the famous Rain-or-Shine Cab will give satisfactory service. Our dealers sell them with complete conviction that they are selling the highest cab value obtainable. Learn about our interesting discounts. Address

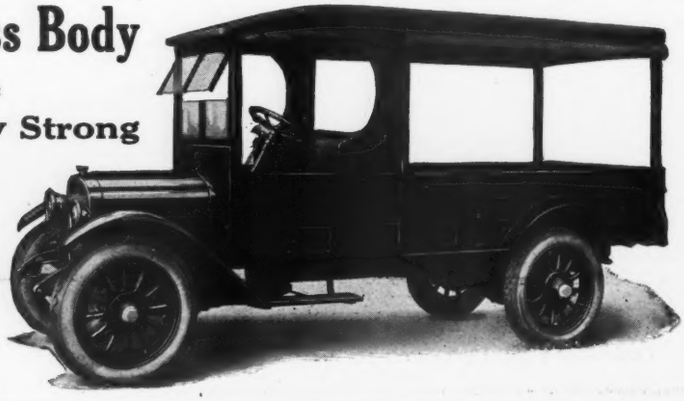
GENERAL WOODWORK CORP. Cincinnati, Ohio

A New Ribbed Panel Express Body

Added to Babcock Line

Very Roomy and Exceptionally Strong

SPECIFICATIONS: Loading space, 96″ x 56½″ x 64″ high. Width between Wheelhouses, 45″; Side Panels and Tail Gate, 19½″ high, steel lined; Body heavily ironed; Metakloth Curtains side and rear, also back of Driver's Seat; Driver's Storm Curtains with Pyralin Lights; Fore Doors, Windshield, Rear Fenders and Splashers built in Body; Spring cushion Seat and full width Back; Roof, 12 oz. Oil Duck, leaded and painted.



H. H. BABCOCK COMPANY

Established 1845

WATERTOWN NEW YORK

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Friction Proofed
BRUNSWICK
TRUCK TIRES

The Brunswick-Balke-Collender Co.
General Offices: Chicago, Illinois
Branches in All Principal Cities
Manufacturers, Established 1845

The White-Hot Spark You Want, When You Want It—and Every Time!

Insure continuous service of your truck or speedwagon by installing the ever-dependable Eisemann Magneto.

We have the necessary attachments.
Full particulars on request

THE EISEMANN MAGNETO CORPORATION
Detroit Brooklyn, N. Y. Chicago
Service Stations in Principal Cities

There's a GILLIAM Bearing for practically every application and every location in every make of automotive equipment.

GILLIAM TAPERED ROLLER BEARINGS are interchangeable with other makes of tapered roller bearings.

Ask our nearest distributor or write us direct for our latest Price List and Replacement Size Data.

Cups Cones Rollers
Alloy Steel Throughout

GILLIAM TAPERED ROLLER Bearings

Axle manufacturers equipping with Gilliam Tapered Roller Bearings include:

Adams	Clark	Standard
Salisbury	Flint	Equipment
Columbia	U. S.	Wisconsin
Torbensen	Sheldon	Vulcan

THE GILLIAM MFG. CO. - Canton, Ohio

DEALER
CO-OPERATION

We have given our dealers a high grade, specialized, standard unit truck to sell, and have backed up their sales efforts with every help that sound merchandising dictates. We have gained thereby a loyal and prosperous dealer organization.

If you want to tie up with such an organization now is your chance, for we are taking on a few more dealers of high calibre.

Commerce Motor Truck Co.
Detroit, Michigan
Export Department
132 Nassau Street New York City
Cable: COMERSTRUX

Commerce TRUCKS

THIS SYMBOL IN ANY ADVERTISEMENT MEANS: SEE "CHILTON AUTOMOBILE DIRECTORY" FOR COMPLETE BUYING INFORMATION

The

RED EYE *Does It!*

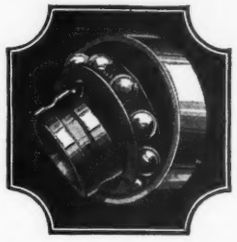
Red Eye Spring construction makes springs strong at what is ordinarily the weakest point—the union of the eye and top leaf.

The eye is forged at the same time the top leaf is heated and rolled, thereby eliminating numerous consequent heatings which often change and impair the micro structure of the steel.

You may be ***paying*** for quality springs—be sure you ***get*** all the ***strength*** you pay for by specifying Red Eye Saving Springs—the spring with the visible selling asset.

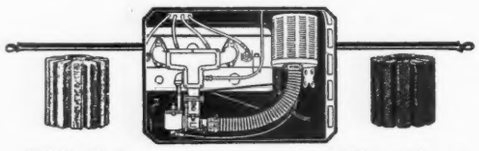
The Saving Spring Co.
Ashland, Mass.

"NORMA" PRECISION BALL BEARINGS



Internationally recognized as the standard bearings for ignition apparatus and lighting generators

THE NORMA COMPANY OF AMERICA
Anable Avenue
Long Island City New York
BALL, ROLLER AND THRUST BEARINGS



White Before Service — Dirty After Service

STAYNEW FILTER

ROAD DUST

The Greatest Enemy to Motors

It is a well-known fact that road dust entering thru the carburetor air intake to the motor makes the oil gritty, thereby causing excessive wear on the pistons, piston rings, cylinder walls and bearings, making it noisy and inefficient, which results in direct loss of power, increased fuel consumption and, in most cases, reboring of cylinders and fitting of new pistons and piston rings is necessary.

Eliminate this trouble and expense by installing a Staynew Filter, which will save the cost of installation many times.

Complete sizes and fittings for all makes of cars and trucks; simple to install and requires no attention.

Exclusive territory to live dealers and distributors. Write for details.

STAYNEW FILTER CORP.
Rochester, N. Y.

COUNTERBALANCED PARK CRANKSHAFTS

Patented July 10, 1917

We have shipped 143,586 Counterbalanced Crankshafts up to June 27, 1923.

THE PARK DROP FORGE COMPANY
Cleveland, Ohio

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No. 108
De Luxe

Hale & Kilburn Seats Increase Bus Revenue

MORE KNEE ROOM
"H & K" Patented Space-Saving Feature gives 1½ inches more space for each passenger.

Specify "H & K" and get the best at no higher price—possibly less.

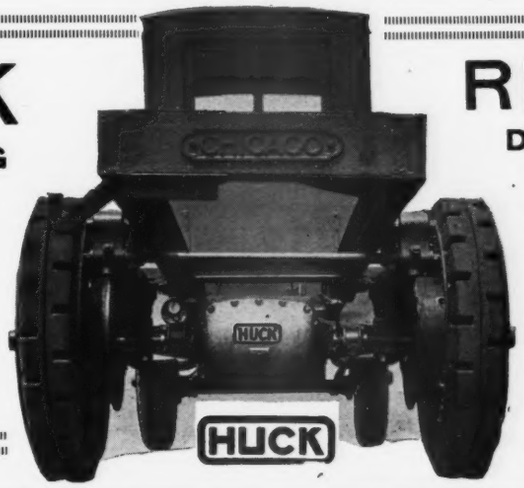
Hale & Kilburn, Philadelphia

Sales Offices: New York, 30 Church St.; Chicago, McCormick Bldg.; Richmond, Mutual Bldg.; Atlanta, Candler Bldg.; San Francisco ,71 First St.; Los Angeles, 447 E. 3rd St.

No. 108
Special

HUCK
FULL FLOATING

In the dust-proof axle housing is located the entire driving mechanism — *which eliminates wheel and hub complications.*



REAR AXLE
DOUBLE REDUCTION

The entire working mechanism of the Huck is easily removable from the axle housing as a *unit.*

Truck manufacturers should send for complete specifications of this easy-to-service axle that transmits 96% power to the rear wheels.

HUCK AXLE CORPORATION
4640 West Harrison Street Chicago, Ill.

White Trucks

Built to do the Most Work For the Least Money

THE WHITE COMPANY, *Cleveland*

WYMAN-GORDON
The Crankshaft Makers

Worcester Division
WORCESTER, MASS.

Ingalls-Shepard Division
HARVEY, ILL.

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The enormous demand for QUALITY piston rings

DIDN'T JUST HAPPEN

FOR day by day, every week, month after month, year in and year out, QUALITY piston rings prove their right to leadership through consistent, dependable performance.

A performance resulting from intensive specialization.

A performance resulting from accurate, quick-seating, resilient piston rings — from piston rings that are long lived and easy to install.

A performance recognized by more than 100 leading manufacturers for initial installation and by all leading jobbers, regrinders and dealers.

It is this consistent, dependable performance that is responsible for the enormous demand for QUALITY piston rings.

The Piston Ring Company

Muskegon, Michigan

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"Gramm" says:

You cannot get more out of a truck than what you put in it.

Therefore:

Why fool your customer or yourself.

Sell him real satisfaction.

For instance, we have a speed truck that DOES everything others MERELY claim theirs do.

The Gramm-Bernstein Motor Truck Co.

Lima, Ohio, U. S. A. P. O. 599

We Furnish Service Parts on "Gramm Trucks" Back to the Original, 22 Years Ago

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Specification Service That "Follows Through"

Tanks
Cowls
Hoods
Fenders
Splash Pans
Running-Boards
and
Specification
Service

YOUR sheet metal requirements, from the heaviest to the lightest gauges, are handled economically and efficiently. We insure rigid and lasting construction by using only the latest and best machinery. Highest quality of materials and workmanship makes for perfectly finished units at reasonable prices.

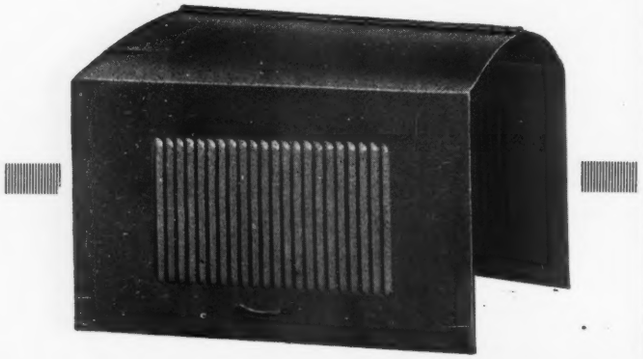
Send Us Your Blueprints for Estimates

A. B. & B. SHEET METAL WORKS

B&B Specification Service

FOND DU LAC AVENUE AT 33RD ST.
MILWAUKEE

Manufacturers of Hoods, Tanks, Fenders and Kindred Sheet Metal Products



LEECE-NEVILLE

12 Volt Lighting Systems *for* Motor Busses

Where Light Means Business

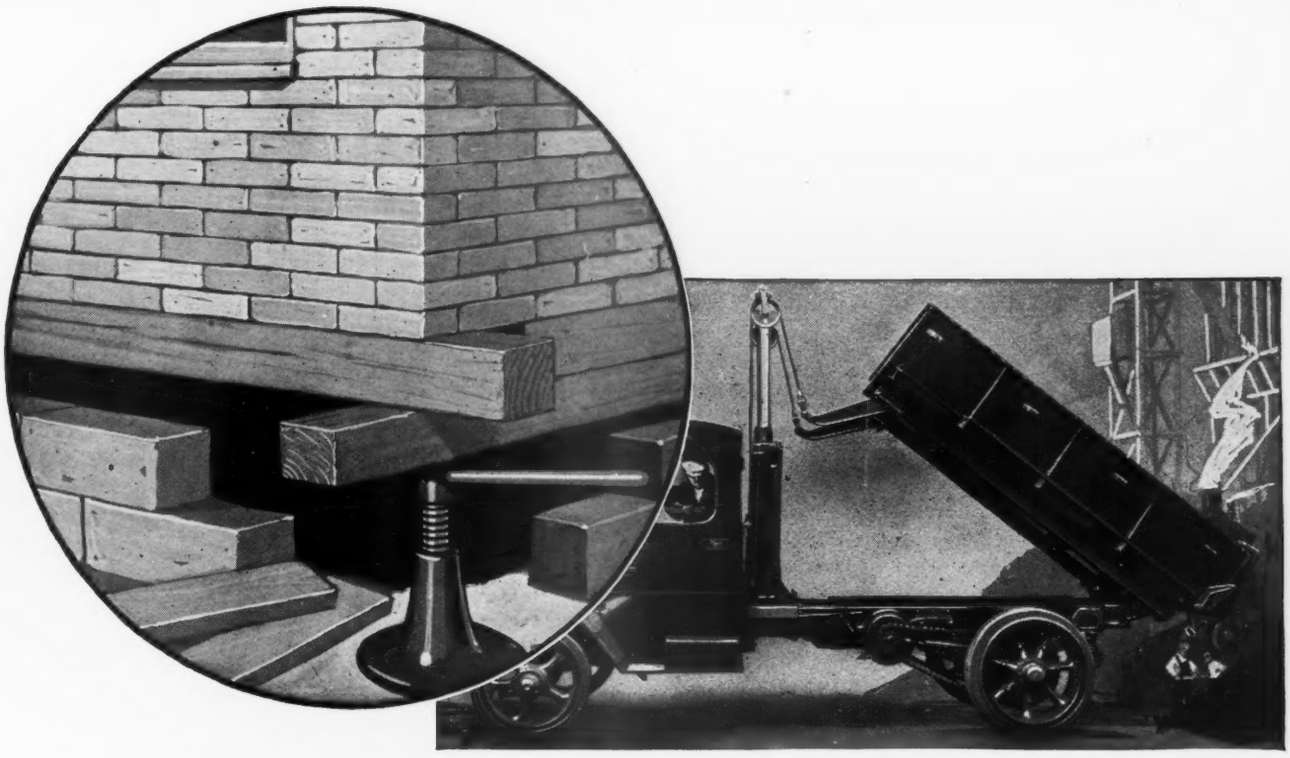
The bright, reliable light, that Leece-Neville systems insure, attracts night business. People are attracted to the brightly lit motor bus every time in preference to the dingy, dangerous bus that lumbers along blindly thru the dark.

Leece-Neville equipment is especially designed to give adequate light to motor busses. Our generators and compensators automatically care for the increased current requirements of night service.

As an evidence of its efficiency Leece-Neville Electric Equipment is now adopted as standard on vehicles made by the Autocar Company, Brockway Motor Truck Co., Haynes Automobile Co., Mack International Motor Truck Co., The G. A. Schacht Motor Truck Co., White Motor Truck Co., and a number of other representative firms.

Send for Full Details of This Wonderful System

THE LEECE-NEVILLE CO.
Cleveland, Ohio



The Powerful Lift of the Screw-Jack!

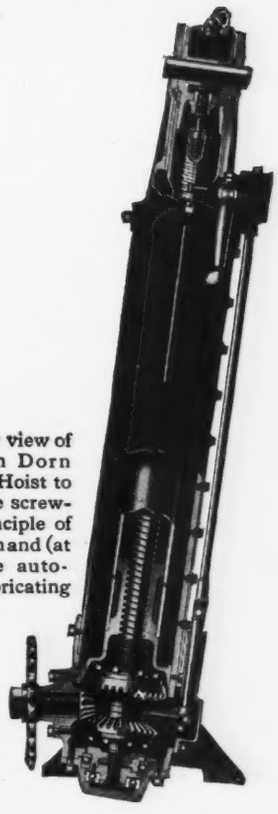
THE screw-jack principle is one of the most powerful lifts known to engineering. Huge buildings weighing thousands of tons have been raised by jack-screws.

It is the screw-jack principle which is used in the Van Dorn Vertical *Mechanical* Truck Hoist. The heaviest load can be dumped in 20 seconds at moderate speed of the motor. The hoist is always positive in control—no weather troubles—it operates as surely and speedily in mid-winter as in mid-summer. It is self-lubricating, requires scarcely any attention, and stands up under long, hard usage.

The Van Dorn Mechanical Hoist marks a big advance in truck dumping. Truck operators who wish the greatest efficiency from their trucks should know Van Dorn Hoists and what they will do. Put a Van Dorn Hoist on the next truck you buy, and let a comparison with former dumping methods prove its many big advantages.

Send for complete catalog describing Van Dorn Mechanical Hoists, Vertical and Horizontal type, and Dump Bodies for all purposes.

THE VAN DORN IRON WORKS COMPANY, Cleveland, Ohio



Cutaway view of the Van Dorn Vertical Hoist to show the screw-jack principle of operation and (at top) the automatic lubricating device.

BRANCHES:
Chicago
Boston
Long Island City
Philadelphia
Washington
Providence

Van Dorn

MECHANICAL DUMP TRUCK HOISTS

BODIES — FRAMES — PRESSED PARTS

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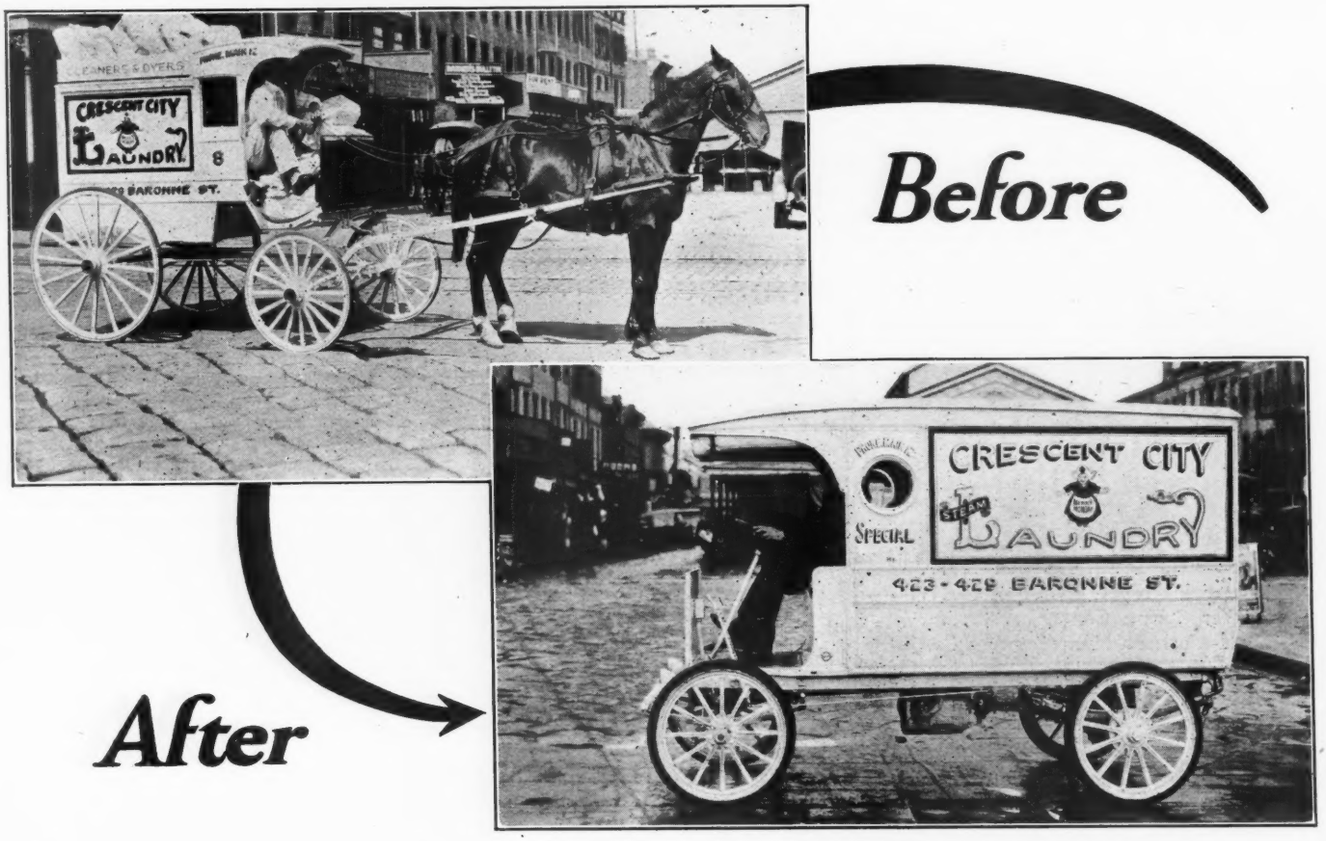

"Dobbin's" Real Successor

Probably 50% of all commercial traffic is still horse-drawn. *How are you going to get that business?*

You know how difficult it is to sell gas trucks in competition with horses and wagons on short, frequent-stop routes if the prospective customer keeps real cost figures. On such routes horses are cheaper.

Electric trucks are a different story. You can prove by rock-hard facts that they are cheaper than horses *at any distance.*

Ward Electric Trucks are saving money on delivery for large Bakeries, Laundries, Dairies, Ice Cream Companies, Department Stores and other businesses where short hauls and frequent stops prevail. They offer you a big opportunity to sell fleets to firms in these lines.

Ward Electric Trucks would round out your business, enabling you to compete with horses on short, frequent-stop routes.

ABLE DEALERS WANTED. The argument of economy makes Ward Electric Trucks easy to sell. One dealer sold 87 his first year. We invite every able dealer who wants new business to get in touch with us.

Ward Motor Vehicle Company, Mt. Vernon, N. Y.

Ward Electric Trucks
cut delivery costs 20% to 35%

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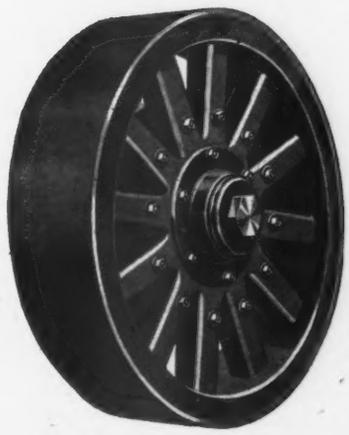
Motor Wheel
PRODUCTS

Can Truck Wheels be "too good"

The most fearful road your trucks travel will be paved before the wracking affects a Motor Wheel truck wheel .... Even the careless driver will have learned better long before he can harm a Motor Wheel truck wheel .... If there must be overloading the wheels surely should be as good as ours .... These wheels uniformly outlast trucks .... We don't want our men to know how to build any other kind.

MOTOR WHEEL CORPORATION, Lansing, Michigan
Largest Builders of Truck Wheels in the World

Motor Wheel TRUCK Wheels



The New Series, Model L4-a truck motor. Just one of the many Continentals built to fill every truck requirement.

IN THE Red Seal Continental Motor the buyer of a specialized truck finds every appearance and reality of quality that the wisest purchase consideration can demand. The acknowledged sign of supreme motor achievement is and always will be—the Continental Red Seal.

Built by the largest motor Specialists in the world

CONTINENTAL MOTORS CORPORATION

Detroit and Muskegon, Mich.

CONTINENTAL MOTORS
Powerful as the Nation
AMERICA'S STANDARD